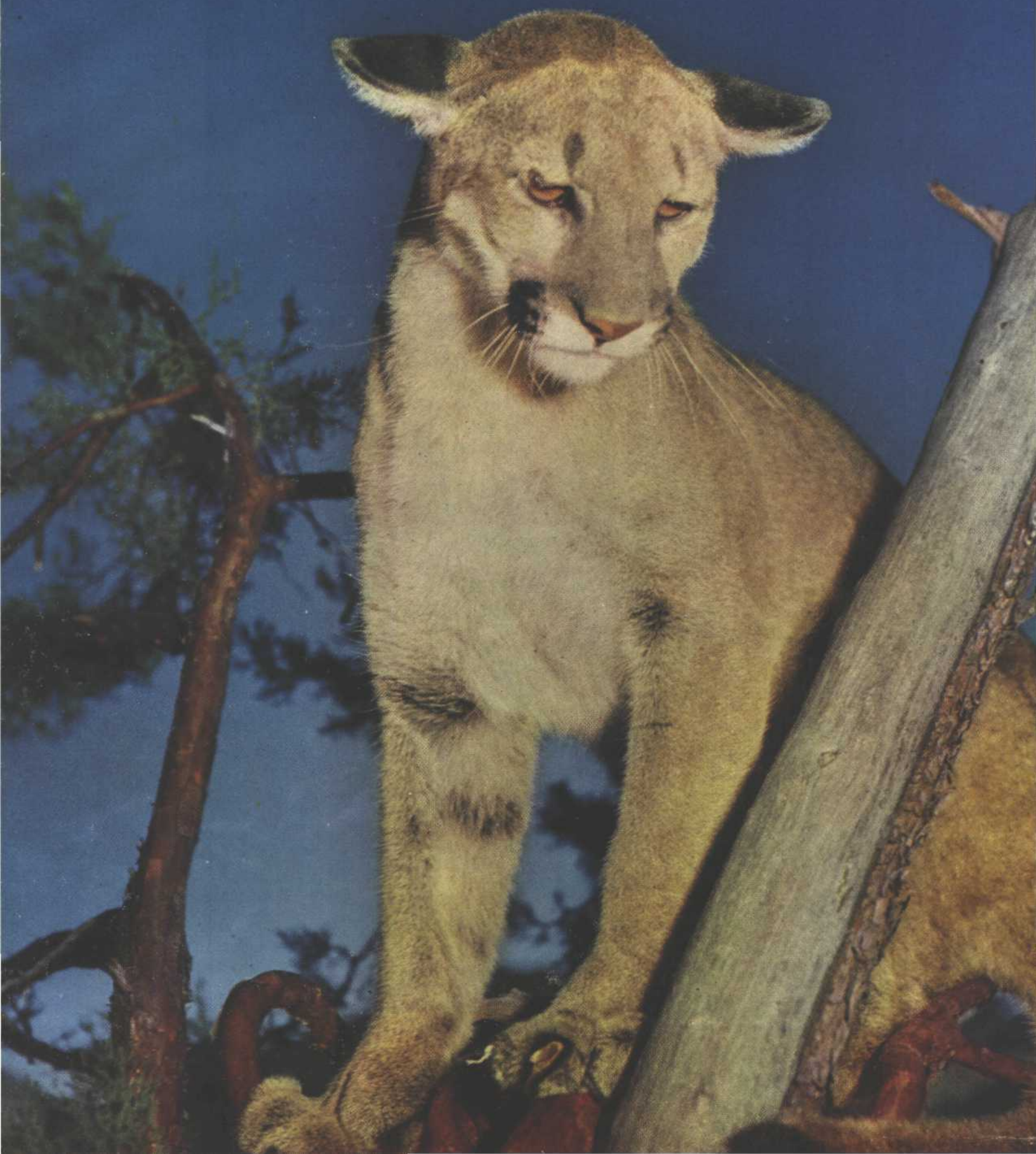


# *Desert*

MARCH, 1956 . . . . 35 Cents





# LETTERS

## Nell Murbarger Honors . . .

Whittier, California

Desert:

I was very pleased to see that Western author Nell Murbarger has been honored by The American Association for State and Local History (*Desert*, Jan., '56, page 28) for her distinguished service in the cause of making Americans better aware of their local history.

She is the Southwest's top travel writer and that her tireless enthusiasm and brilliant abilities are being recognized is gratifying.

PAUL LINSLEY

• • •

## Prospector Is a Dude . . .

Palisade, Nevada

Desert:

Your magazine has no place for anything as contrived and artificial as the January cover picture of the prospector leading his burro.

In the future, please make the subjects real. The title of the January cover should be "Dude" instead of "Prospector."

JOE RAND

• • •

## Loves a Little Town . . .

Opal, Wyoming

Desert:

"I like to live in a little town where the trees meet across the street, where you wave your hand and say "hello" to everyone you meet.

"I like to stand for a moment outside the grocery store, and listen to the friendly gossip of the folks that live next door.

"For life is interwoven with the friends we learn to know, and we hear their joys and sorrows as we daily come and go.

"So, I like to live in a little town, I care no more to roam, for every house in a little town is more than a house, it's home."

I found this poem at the Mt. Whitney Cafe in Lone Pine, California, and thought it worth passing on to your readers.

H. H. DeMILNER



*The white streak running up the middle of this photograph was invisible to the naked eye when Henry Miller took this picture. Can an ordinary box camera assist the prospector to find radio-active veins?*

## Prospecting by Camera . . .

Milwaukee, Wisconsin

Desert:

I am sending you a photograph of what appears to be a radio-active ore vein I discovered accidentally in central Wisconsin last summer. The white streak running up the middle of the photograph was not visible to the naked eye but was recorded by the camera.

HENRY F. MILLER

*Editor's Note: Interested in the possibilities of prospecting for radio-active ores with a box camera, Desert sought expert advice on this problem from Robert A. Satten, assistant professor of physics of the University of California at Los Angeles. Prof. Satten's reply follows:*

*"Radiation from nuclear disintegration does affect photo film in the daytime or in the dark as long as these rays can strike the film in sufficient amount or intensity. However, even if the white vein in the photograph were radioactive, its nuclear radiation would not affect the photograph at all, for the following reasons:*

*"The film is too far away.*

*"Even if such radiation could penetrate such large distances (and it cannot) in sufficient intensity, it*

*would not be focused by a lens in the way that visible light is, and so would not give an image, but would fog the entire film.*

*"It is not possible to prospect for uranium with an ordinary camera. Ordinary wrapped film might be used if held for a very long time right up against a very radioactive ore. This is the way radio-activity was first discovered. But this method is obviously not sensitive enough and that is why we have geiger counters, etc.*

*"Daylight film does not have the same sensitivity to the various colors that the eye does, so it is conceivable that there might be differences in the appearance of a landscape by eye and by camera."*

• • •

## Mansions of Mysteries . . .

Glendale, California

Desert:

Those who know the desert understand much about creation.

They alone have seen that the tomb-like silence of the surrounding dunes, where weird cacti stand sentinel, are a place of life. They have found that the dead-looking, soundless spaces stocked by shrub and sage, shelter the lizard and snake. They know that the bird egg and the mouse are there, blended into the delicate grays, greens, browns, yellows and pinks characteristic of this land of color.

Those who dwell in this realm know there is no place on earth where you come closer to grasping a star in your own hand than out on those vast sands on any given night.

The people who know the desert have unlocked the doors to mansions of many mysteries and found there a large portion of happiness: release and freedom rare to experience.

J. H. ERHARDT

• • •

## Half-breed Wildcats . . .

Twin Falls, Idaho


Desert:

I was very much interested in Edmund Jaeger's wildcat story in the November, 1955, *Desert*. He points out that wildcats will kill domestic cats, but he failed to mention that sometimes male wildcats mate with female house cats.

We know of two offspring from such a union. These kittens are tame enough to lay around on the porch in the sun, but when a human appears they run for cover.

They are larger than domestic kittens and have an interesting appearance.

MRS. C. H. MITCHELL



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## DESERT CALENDAR

- Feb. 15-March 5 — John Hilton Art Exhibition in the Desert Magazine Pueblo, Palm Desert, California.
- March 1—Museum of Northern Arizona opens for season, Flagstaff, Arizona.
- March 1-18 — Southern California Artists Exhibition in new Twenty-nine Palms, California, Artists Guild Gallery.
- March 3-4 — World's Championship Tennis Matches, Palm Springs, California.
- March 3-4—Sierra Club Hike to Cottonwood Mountains from Cottonwood Springs in Joshua Tree National Monument, California.
- March 4—Dons Club trek to Superstition Mountain, from Phoenix, Arizona.
- March 4—Out Wickenburg Way Style Show, Wickenburg, Arizona.
- March 6—Dog Show, Phoenix Area Specialty Show, State Fairgrounds, Phoenix, Arizona.
- March 7-8 — Dog Show, All Breed Show, State Fairgrounds, Phoenix, Arizona.
- March 10—Palm Springs, California, Desert Museum field trip to Magnesia Canyon near Rancho Mirage.
- March 10 — All State High School Band, Orchestra and Chorus Festival, Tempe, Arizona.
- March 10-11—Junior Ski Races, Arizona Snow Bowl, Flagstaff, Ariz.
- March 11—Maricopa County Sheriff's Posse Rodeo, Phoenix, Arizona.
- March 14-28—Agnes Pelton Art Exhibition in the Desert Magazine Pueblo, Palm Desert, California.
- March 15-18 — Phoenix World's Championship Rodeo, State Fairgrounds, Phoenix, Arizona.
- March 16-18—Dons Club travelcade to Hopi Villages, from Phoenix, Arizona.
- March 17—Palm Springs, California, Desert Museum field trip to Fan Hill Canyon in the Little San Bernardino.
- March 17-18—Desert Arabian Horse Show, Polo Grounds, Palm Springs, California.
- March 17-18—Sierra Club Hike to Split Mountain and Fish Creek Wash from Ocotillo Wells, Calif.
- March 17-18 — Jeep Cavalcade, Hemet, California.
- March 19 — Ceremonial Dance, Laguna Pueblo, New Mexico.
- March 21-25—Maricopa County Fair, Mesa, Arizona. Miniature Parade on 21st; Rawhide Parade on 22nd.
- March 23-25 — Eagle Convention, Yuma, Arizona.
- March 24—Palm Springs, California, Desert Museum field trip to Falls Creek Canyon.
- March 24-25 — Dons Club trek to Grand Canyon, from Phoenix, Ariz.
- March 24-30—Sierra Club Easter Vacation Trip to Organ Pipe Cactus National Monument, Arizona and Cholly Bay, Punta Penasco, Mexico. First camp at Salton Sea State Park on March 24.
- March 27-30—Palm Springs, California, Pageant.
- March 30—Passion Play in the Penitente Chapel, Taos, New Mexico.



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MARCH, 1956

Number 3

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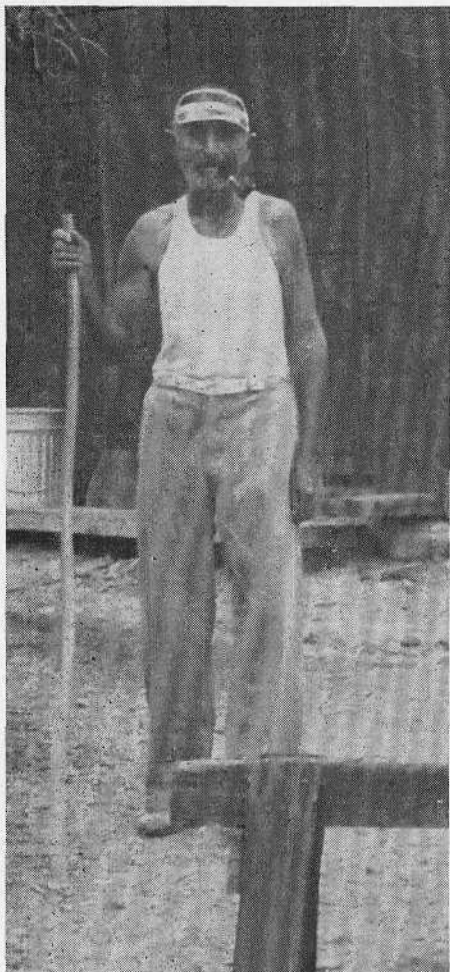
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*John Nummel and his walking stick. For more than half a century, John wandered the lonely trails of Yuma County and the Colorado River country. On one trip he found a yellow quartz ledge glittering with free gold. Photograph by Ed Rochester.*

By HAROLD O. WEIGHT  
Map by Norton Allen

**J**OHN NUMMEL was hiking between the Red Cloud and La Fortuna mines, in southern Yuma County, Arizona, when he made the biggest strike of his life — a yellow quartz ledge that glittered with free gold. And for reasons that seemed logical to him at the time, he left the ledge and walked on. And never found it again.

It was not surprising that John found his ledge on the old Red Cloud-La Fortuna trail. There was a time when he was almost a commuter between the two camps. And as for being afoot — for more than half a century he probably was the walkingest man in the Colorado River country.

That was no small distinction. Be-

John Nummel, miner-pro prospector, is gone now and so are most traces of the trail he hiked so many times between the Red Cloud and La Fortuna mines in the Yuma, Arizona, area. But somewhere off that trail near the Yuma Wash a ledge of dirty quartz cropping out beside a palo verde tree—or the ghost of a palo verde—remains—dirty quartz, rich in free gold.

## *The Ledge of Gold John Nummel Lost...*

fore the coming of the Model T, frontier Southwesterners did an amazing amount of walking. "Shanks mares" were the only practical means of transportation in many parts of the desert, of course, but even when horses, mules, burros, wagons and stages were available, pioneer prospectors and miners sometimes preferred walking.

When a man was doing serious prospecting, such an attitude was understandable. Most of the great mines were found by men on foot, either punching or hunting their "boo-rows" or clambering where even a burro would have felt dizzy. But miners seeking employment at some distant camp were equally nonchalant about pushing off on a 20 or 30-mile hike in blazing heat, some with only a bottle of water stuck in a pocket as a concession to the dangers of desert summer.

John Nummel was both a miner and a prospector. Quite probably influenced by the Wild Westerns popular in Germany then, he came directly to California when he emigrated to America as a very young man. He spent a year on the coast then headed for the still-wild Arizona frontier where he spent the rest of his long life along the Colorado River and among the desert mountains of Yuma County. The date he arrived in the Territory is uncertain, though more than once Dick Young, Clyde Stewart and the rest of the boys at Picacho heard him insist: "I know every judge and every official that's been elected in Yuma County since 1872."

That year would seem a little too early to jibe with John's age when he died in 1948. But Clyde Stewart is certain John was one of the first men to work at the Red Cloud after it was purchased by a New York company in 1881 or 1882. In fact, Nummel was on the scene and developing claims of

his own when the fabulous silver strike at the Red Cloud was made.

He must have been a born wanderer like many others who were attracted to this vast, wild, lonely and beautiful land bordering the Colorado. From the '80s to World War II, John hiked and rode and prospected and worked through the Trigo Mountains, the Chocolates, the Kofas, Castle Domes, Lagunas and Gilas. Besides the Red Cloud, he worked as a miner at La Fortuna, the King of Arizona and the North Star, and in California at Picacho and Hedges.

A man following such lonely trails and wandering far beyond all trails through so many years is bound to come upon curious and interesting things. John's discoveries included ancient Indian habitations and a cave with crude old mining equipment hidden in it, far from any known mine, and a hill of what he insisted were petrified turtles. Besides his lost gold ledge he discovered a number of promising mineral leads, developing some of them and proving others worthless. And he also found a rich silver ledge but was unable to relocate it. The silver strike came late in his life, and is another story.

The date of the yellow quartz ledge find has been forgotten. But it must have been when he still was a young man, for it was in a time when both the Red Cloud and La Fortuna were working steadily. The Red Cloud ended its period of greatest activity about 1900, while golden La Fortuna came into production about 1895 and operated on a large scale until 1904, when the main vein was lost. Its banner year was 1900, when nearly half a million dollars in gold was produced. Both mines have had periods of revival, but these periods did not coincide for any length of time.

In those days good miners almost





*Old building and present day workings of the Red Cloud Mine. Nummel was one of the earliest miners at the Red Cloud and he started from it on the trip when he found his golden ledge.*

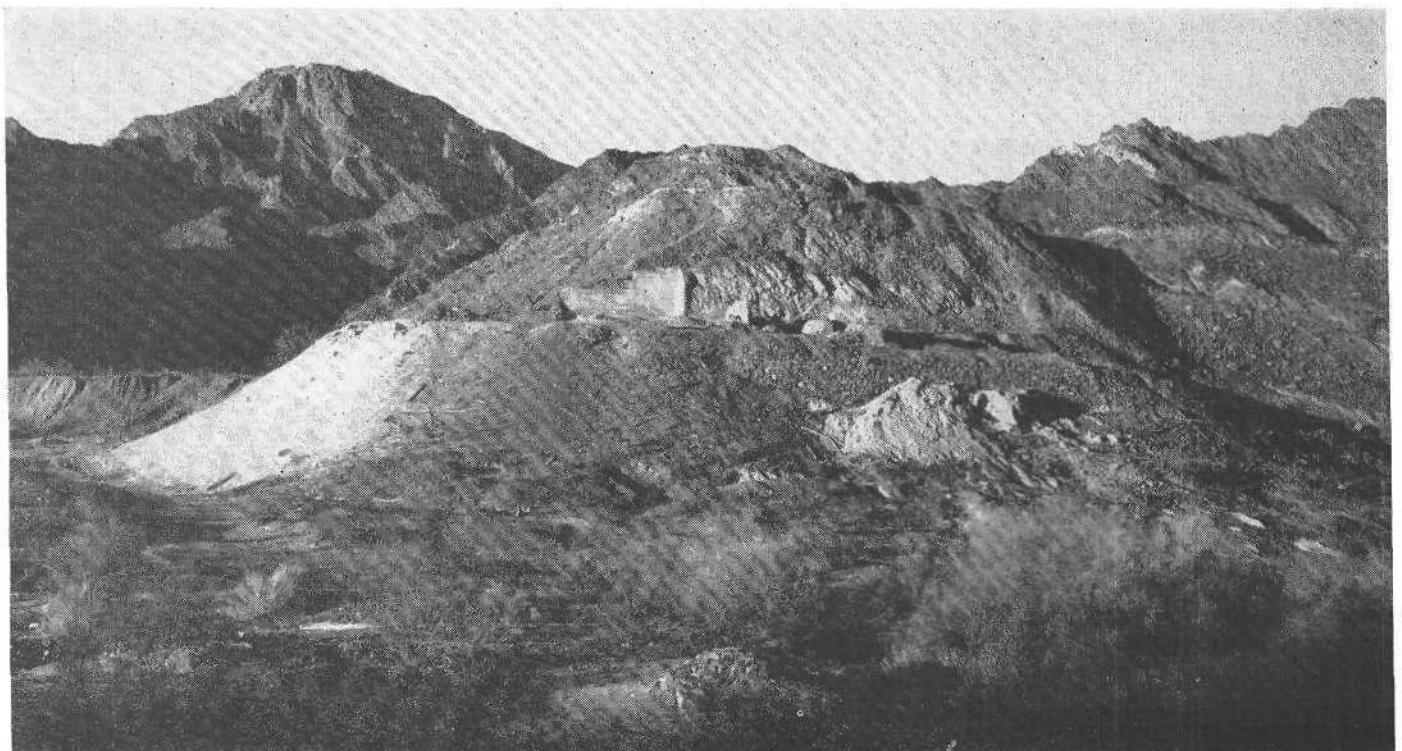
always could find work at any of the more isolated desert mines in development or production. So they did not hesitate to quit a job that for any reason displeased them. John, with his

Dutch stubbornness and occasional temper, was a sturdy exponent of this variety of miner philosophy.

"When the Red Cloud and the old Fortuna were working," Clyde Stewart

told me, "John just played the two of them, back and forth. He'd get mad and have a fight with the foreman at one, and quit, and then he'd go to work at the other. And after a while

*Ruins of the mill and camp of La Fortuna Mine in the Gila Mountains. Nummel was heading for this camp when he found his rich ledge.*



he'd have a disagreement at that one and go back to work at the other. And he would almost always walk the whole distance between them, along the old Red Cloud-Fortuna trail, prospecting as he went."

So far I have been unable to work out the course of this apparently direct foot trail between the two mines, and probably no trace remains of large portions of it. Early maps do not show the trail, and early accounts are silent about it. Possibly it was an old Indian trail, from waterhole to waterhole. Possibly John, its principal traveler, laid out portions of it himself. According to Stewart, it crossed Yuma Wash about three miles up from the Colorado River. This crossing was about nine

miles by the trail from the Red Cloud, while the twisty old wagon road took several more miles to reach the same location.

One summer day John Nummel followed his usual procedure of row and resignation at the Red Cloud. He filled his gallon canteen, slung it over his shoulder and set off on foot for La Fortuna. Today we would look upon that as quite a traverse since the two mines were more than 40 miles apart.

John made his gold strike after he crossed Yuma Wash. As usual he was not on the main trail, but prospecting along a line parallel to it.

"It was hot as the devil," he told Stewart nearly half a century later. "And there was that palo verde tree.

I went over and sat down in its shade. My canteen was pretty near empty, but I took a drink anyway. Then I just sat there and rested in the shade. There was a sort of ledge—looked like dirty quartz—cropping out right beside me, where I was sitting. Out of habit more than anything else, I took my pick and broke a piece off."

John's eyes brightened when he came to that part of his story. "It was yellow quartz. And was it rich! And pretty! Free yellow gold. Free yellow gold in yellow quartz."

But John had a problem. He did not have tools to open the vein or do development work, or supplies to feed him while he worked. If he had been supplied and equipped, the vicious summer heat would have made the hard labor of development unpleasant at best, and quite possibly dangerous. John did not want to return to the nearby Red Cloud, where he had so recently made a grand exit. More than a matter of pride, he was certain that the miners and prospectors at the camp would suspect that only something extraordinary would have brought him back.

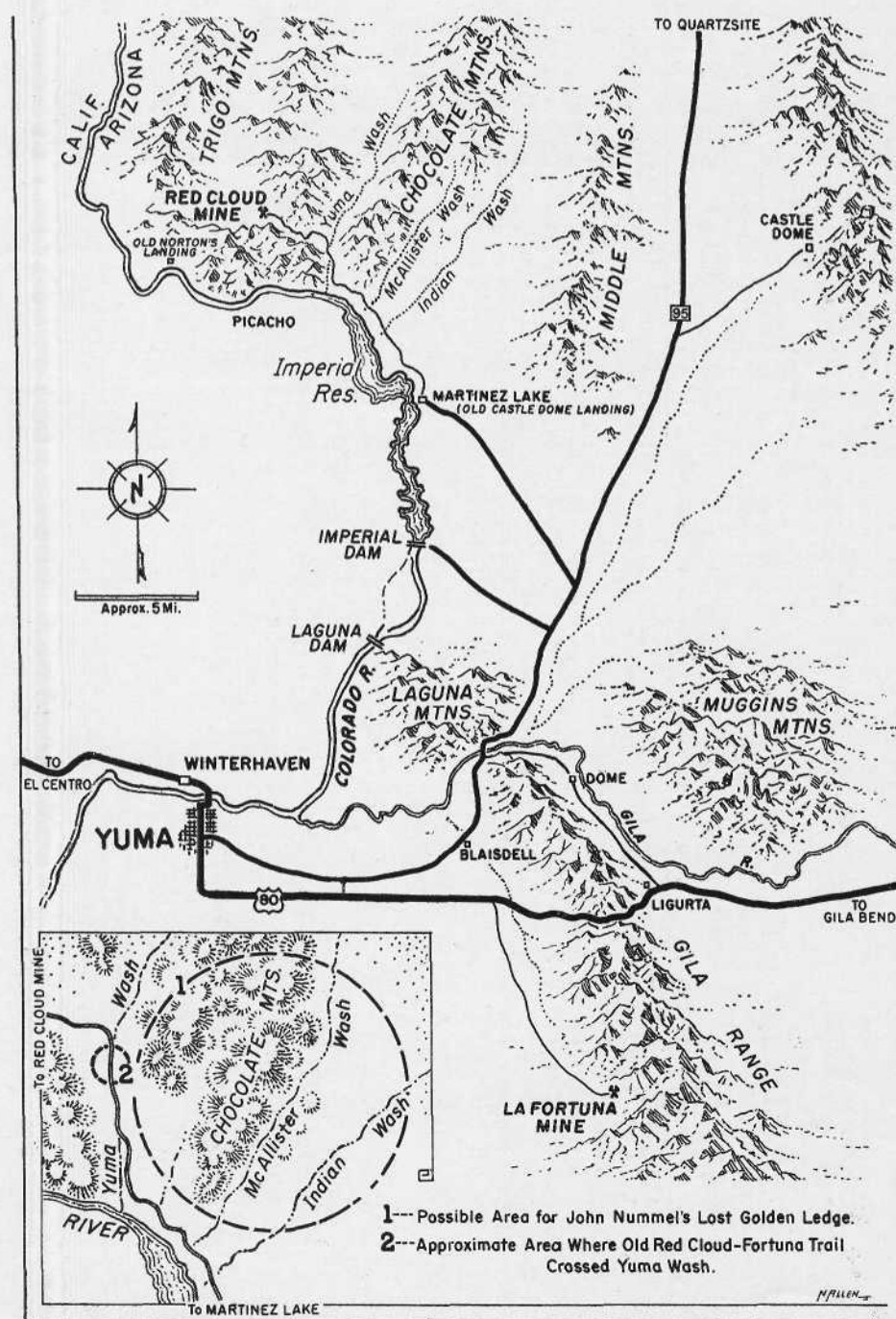
And probably John figured that since the ledge had lain there undisturbed for a million years, it was unlikely anyone else would stumble upon this particular tree and this particular outcrop before he could return under better conditions and claim it. Not many people traveled Red Cloud-La Fortuna trail which lay some distance from his find. Very few attempted it in summer.

John decided to continue as he had planned, to La Fortuna. He would work there and save up enough money so he could take time off to develop his find. Then he would locate it and open it on his way back to the Red Cloud when he quit next at La Fortuna.

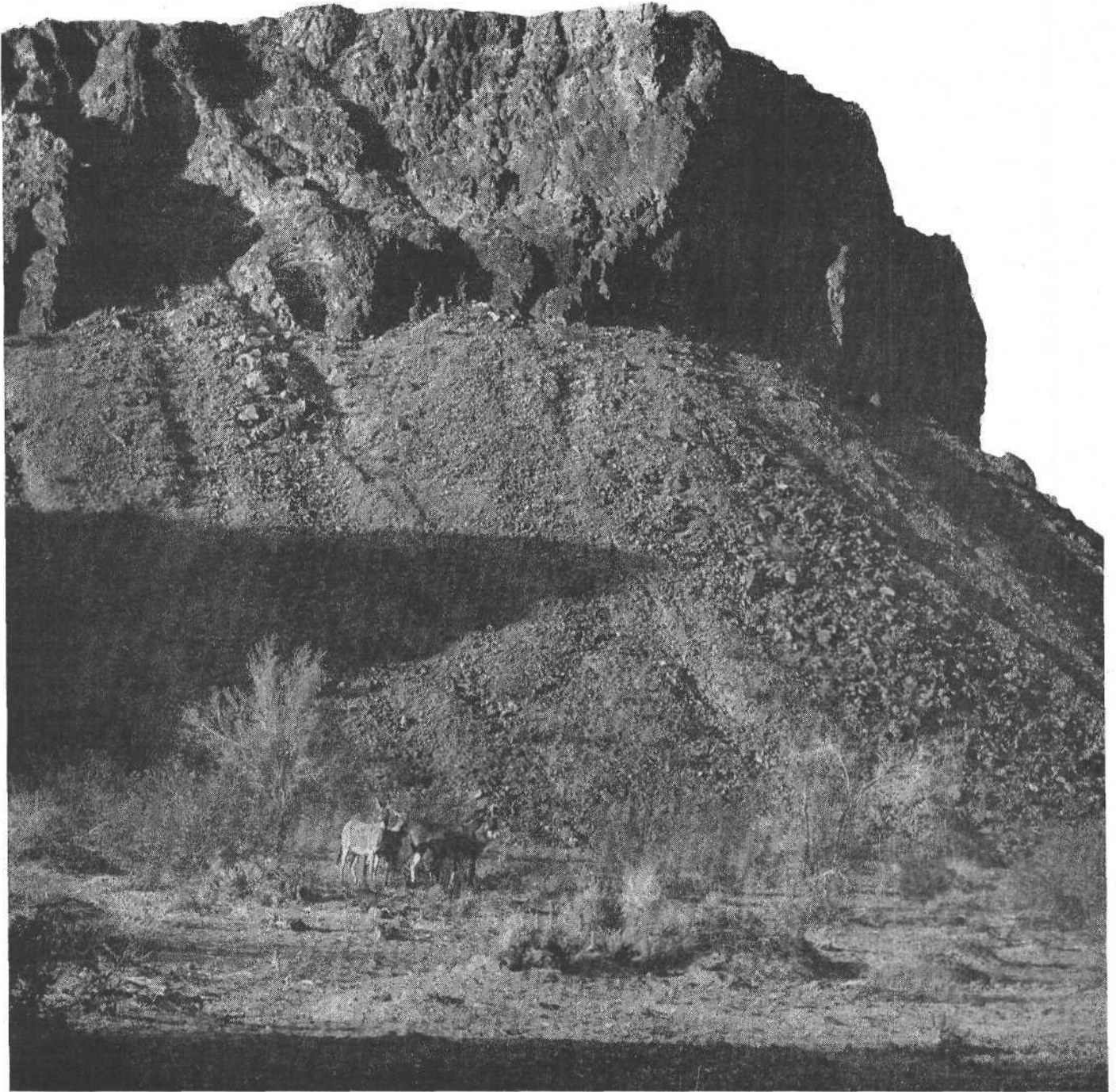
So he pocketed the sparkling piece he had knocked off, concealed the freshly broken surface of the yellow quartz ledge, and walked on.

John was short of water. But he knew that not much farther on—it proved to be about a mile—there was a small natural rock tank within 200 yards of the main trail. There are many such tanks scattered through the desert mountains, too unimportant or too transitory to be listed in water supply reports, or to have names. This particular one would hold water for six months after a cloudburst, and John had come to depend upon it. He refilled his canteen there, and continued on the trail to La Fortuna.

Matters followed the usual course there. John worked peacefully for a while, then went a few rounds with the







*With Nummel and most of the other oldtimers gone, burros no longer carry the prospectors' burdens, and the few that remain in Nummel's country, like these, are wild. Photograph by the author.*

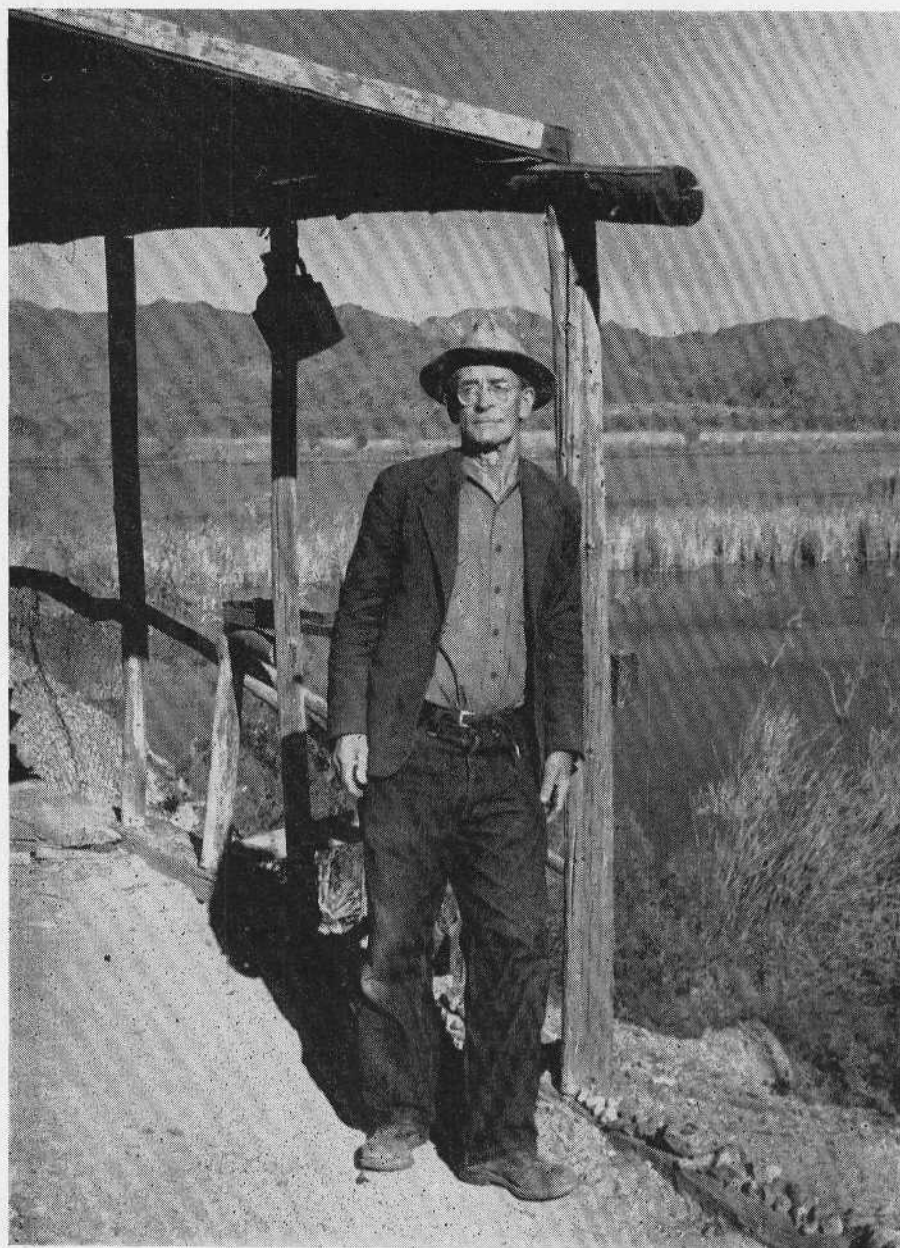
foreman and quit. He returned to the Red Cloud. But he did not walk back along the old trail as he had planned. He started hiking from La Fortuna, but a spring wagon came along and he rode with it all the way into Yuma. From Yuma he caught a ride out to Picacho on the California side of the Colorado. At Picacho, a friend rowed him back across the river and he walked the Arizona side to the Black Rock Landing and smelter, about a mile below old Norton's Landing. Then

he walked up Black Rock Wash to the road linking the Black Rock and Red Cloud mines and followed it to the Red Cloud.

This sounds like a fantastically involved return route if you do not know the country. Actually, because of the great half circle the Colorado makes between Norton's Landing and Yuma, it was the shortest, easiest and most logical way once John had detoured to Yuma.

John still retained some money from

his labors at La Fortuna, and had matters worked out differently, he might still have retraced his earlier trip and relocated his yellow ledge. But the Red Cloud was booming, and the camp supported two or three saloons. John was very partial to such institutions, and he got started at one and went on into the fireworks of a first class celebration. When it was over, he was broke, miserable and in immediate need of a job for grocery money. He went to work again at the Red Cloud.



*Clyde Stewart, life-long miner and prospector, also known as the Tonopah Kid, at his cabin at Picacho, where John Nummel told him the story of the lost gold. Colorado River and Arizona mountains in background. Photograph by the author.*

At the next quitting, he set out along the Red Cloud-La Fortuna trail to locate and explore his strike. It was cooler then and he took the tools necessary. But what had seemed in his mind a very simple project proved to be an impossible task. He crossed Yuma Wash and entered what he thought was familiar country. But where were the ridges and saddles and buttes he thought he had fixed so firmly in his mind? Where was the right palo verde among so many palo verdes? He had been away too long, and too many later impressions had dimmed the details of his strike. Even the hills were strangers.

A gold ledge to develop and show to

buyers for a mining company is one thing. A lost mine is quite different. All men must eat, so John spent most of his time working. But he hunted for the lost yellow ledge whenever opportunity permitted. Stewart thinks he took the job of watchman at the inactive Red Cloud in the late '20s and early '30s so he would be close to the gold ledge area.

That all his searches were unsuccessful is not surprising. During his trips back and forth between the Red Cloud and the Fortuna, he had followed a dozen or more routes on both sides of the main trail. They all must have blurred together in his mind as he sought to remember the one particular

route that had brought him to the golden ledge on that hot summer day so long before. And the southwestern tip of Arizona's Chocolate Mountains between Yuma Wash and Castle Dome Landing, where he made most of his searches, is very rough country. It is largely of Tertiary lava, much of it is almost straight up and down, and there are scores of buttes and ridges and little valleys and slopes, spotted with saguaros—and palo verdes.

Eldred D. Wilson, Arizona Bureau of Mines geologist, said, in the bulletin on southern Yuma County issued in 1933, that these Chocolate Mountains contained no known mineral deposits of economic importance and that he did not know even of any prospects in the range.

But until the day he died, John Nummel was certain that there was at least one rich mine among them. The two principal clues to the location of the yellow quartz ledge, to his mind, were the point where the Red Cloud-La Fortuna trail crossed Yuma Wash and the little natural rock tank where he refilled his canteen. He had made his find after he had crossed the wash, and within a mile of the tank.

When he dreamed of one final trip to find his ledge, it was at Yuma Wash he planned to start. That was in 1947, the last time Clyde Stewart saw him. John was living on his state pension and had built a little cabin near Laguna Dam. Stewart and Ed Rochester and Shorty Mills were on an expedition to the Red Cloud to dig out some of the wulfenite crystals for which it is famous among mineral collectors. Then they planned to go on to a mine that Shorty owned, from which striking groups of vanadinite crystals could be dug.

"We camped at Laguna," Stewart remembers. "And John was there and all excited and fixing to go up to Yuma Wash where the Fortuna trail came in and hunt for that gold mine again. By himself.

"I can picture that yellow ledge just the way it lies," he says. "I can find it."

"He'd gotten one pack burro and he was waiting for a man to bring in two more. Then he was going to load them up and take off. And he was so darned old then—he must have been 72 — that Ed and Shorty and I all ganged up on him and tried to talk him out of it. We hadn't convinced him by the time we left, but we were hoping the man wouldn't show up with those other two burros."

The man with the burros did not come. John Nummel never hunted for his gold again. Not long afterwards





*Today almost nothing is remembered about the old Red Cloud-La Fortuna trail. Perhaps it followed in part, from waterhole to waterhole, the old Indian trail above.*  
*Photograph by the author.*

he went to the Pioneers' Home at Prescott where, according to Ed Rochester, he died.

And what of the yellow quartz ledge with its glittering free gold, that shone in his memory with increasing brilli-

ance as the years passed? Perhaps an ancient palo verde tree now hides the outcropping beneath drooping branches and fallen debris. Perhaps the rocks John piled over it still conceal it. And perhaps both tree and rocks are gone,

and it lies open now under the Arizona desert skies, waiting for another man like John Nummel, willing to wander for a lifetime among lonely buttes and valleys where even the game trails thin and thread and vanish.

## ***Late January Storm Raises Hopes for Wildflowers***

Late January rains fell over most portions of Southern California and Southern Arizona, reviving hopes for a colorful spring wildflower display. The amount of the rainfall varied from light showers over some parts of the storm area to nearly an inch of rain in others.

The prospects for a wildflower show in the Lake Mead National Recreation Area improved greatly as a result of the heavy drenching received there, reports O. L. Wallis, park naturalist. "If we continue to receive additional rains and warm weather and do not experience desiccating winds, we should have many varieties of wildflowers beginning to appear during the middle of March at the lower elevations and slightly later at higher elevations. Some of the perennials such as the sunrays and brittlebush are already beginning to fill out," he writes.

The Antelope Valley in the Mojave desert of California received its first rain since early December. Mrs. Jane Pinheiro of Quartz Hill believes the profusion of wildflower color will not be in evidence this year because of the light autumn rainfall. The almond

orchards will be in bloom in mid-March, with the date for the annual Almond Blossom Festival set for March 11 this year.

The one rain that fell in late January may not be enough for a good wildflower display, believes Bruce W. Black, park naturalist at Joshua Tree National Monument, also on the high desert. "If we receive several substantial showers during the first half of February I would predict a good display in March—otherwise only fair, although with a good possibility of very worth-while displays in a few localized areas," Black said.

Abnormally warm weather through the month of January has started a little flowering activity at the Saguaro National Monument at Tucson, Arizona, and Superintendent John G. Lewis believes that there will be an early but poor blossom season this year. A few brittlebush, desert marigold and desert zinnia are already in flower. The prospects that the ocotillo will be in leaf and flower at the same time in mid-February are good, Lewis added. He is expecting the

hedgehog cactus to bloom about the end of March.

William J. Reinhardt, park supervisor of Borrego State Park, writes from Borrego Springs, California, that very little rain has been received in his area. "Along our Palm Canyon Nature Trail we have a few shrubs beginning to bloom—desert lavender, brittlebush and chuperosa," writes Reinhardt.

A. T. Bicknell, superintendent of the Casa Grande National Monument at Coolidge, Arizona, reported before the storm hit. He wrote then that one good rain could change the bleak outlook for wildflowers.

Fred W. Binnewies, superintendent of Death Valley National Monument, also reported early. Prospects are very poor except in the upper part of Furnace Creek wash where some wildflower sprouts are beginning to show, he said. Prospects in the higher elevations are also poor, but Binnewies believes a few hardy flowers will bloom in late March and April.

A light rain fell in the Coachella Valley of California, increasing hopes for some wildflowers there.

## LIFE ON THE DESERT

# Bill Williams on the Rampage

The Bill Williams River suddenly had turned from a gentle creek to a thundering, flood-swollen river. The worst was not over, however, when the Rev. Sorensen started up river to the elderly Chestnuts' ranch. Here is the story of a mission of mercy that almost ended in tragedy for the rescuers.

By REV. NORMAN M. SORENSEN

**T**HE WINTER of 1936-37 was an unusual one on the desert of Southern California and Arizona due to heavy rainfall and cold temperatures. In fact, snow fell for the first time in decades and one night the thermometer went so low a thin skin of ice was frozen on the Colorado River near the Parker damsite.

That winter we were residing at the little construction town of Cross Roads, California, which is half way between Earp and Parker dam then under construction.

Just above the damsite, the Bill Williams tributary comes in from the northeast. Normally the Bill Williams is just a small stream that is easily forded. However, it drains a vast watershed extending nearly to Prescott and Flagstaff in northern Arizona.

In early February, 1937, the weather turned warm and a combination of chinook winds and warm rains brought rapid melting of the snowpack in the mountains at Flagstaff. Runoff water quickly accumulated in the upper tributaries of the Bill Williams and soon a wall of water 20 feet high and a quarter of a mile wide came roaring down the canyon to the junction with the Colorado River. One of the engineers on the dam construction told me later the flow reached a maximum of 75,000 second feet—compared with a normal flow of about 10 feet.

So great was the inrush of flood water into the Colorado that it pushed back upstream and for a few hours the Colorado at this point actually was flowing upstream at nearly six miles an hour.

The diversion tunnels at the damsite could not handle the sudden volume of water, and the coffer dam started to leak. Crews worked feverishly to strengthen it. Fortunately for those living downstream it held. One man came down the flood riding a tree and was rescued by a boat at the dam. When the water receded next day mud varying in depth from several inches to four feet carpeted the floor of the Bill Williams valley.

An elderly couple named Chestnut had a farm on the Bill Williams a few miles upstream from the dam, where they raised a few cattle and many vegetables. Their little desert home was close to the edge of the stream. We were afraid it was too close. To make matters worse, Mrs. Chestnut had been ill with the flu.

As soon as we felt we could get through, my wife and I and two sons, one four and the other two, started toward the Chestnut ranch to see if they needed help. The construction company had scraped the mud off the road part of the way, but the last mile or two before reaching the farm was either washed out or covered with muck.

We drove as far as we could and then started wading through the mud. We were going along fine until we came to a cross-channel of quicksand which was too wide to jump, and not solid enough for footing. I tried to leap across at the narrowest point, and landed knee deep in the quicksand, but saved myself by grabbing the branch of a willow which grew on the bank. I then improvised a crossing for the others and we arrived at the ranch where we found the family safe.

The flood waters had reached their doorstep, and then receded. They had lost much of their vegetable garden, however.

Mrs. Chestnut prepared a roast chicken dinner with all the trimmings and we sat down to a cheerful meal.

We started back before dark because of the long walk back to the car. Mr. Chestnut suggested that we take a trail on the side of the hill in order to avoid most of the mud. The trail, he said, would lead us to a saddle on the hill from which we could drop down to the parked car.

When we reached this spot we saw several saddles instead of one, and a high cliff blocked our descent. To make matters worse it was almost dark and our only hope lay in finding a way down the face of that cliff. After investigating it we found a crevice that

we thought would lead us to the bottom. My wife and I each took a child on our back and started down. It was a tough descent and soon after we reached bottom it was pitch black. We tried our flashlight but found it was burned out.

I took my bearings from the stars and started hunting for the car.

Trying to find a black car parked in an area of sticky mud in the black of night is quite an experience. I knew that the hill near where the car was parked was shaped like the back of a hand. We were on the "hand" and the car was between two of its "fingers." I left the family and started down each finger until I found the right one. I yelled for them to follow and soon we were in the car.

As I was turning the car around I heard a roar behind me but could not identify it. The sound from the motor drowned it out as we headed back home.

Later I learned that this roar was a second flood, almost as great as the first. The spot where our car had been parked was again covered by deep water and mud within a matter of minutes after we had left it.

You are cordially invited to attend . . .

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*The powerful, lithe mountain lion is a masterful hunter, preying on deer, colts, wild burro and smaller animals. Western Ways Photo by Tommy Lark.*

## *Rogue of the Rim Country...*

By whatever name you know it—mountain lion, cougar, puma, panther—the big cat pictured above is a ferocious—and admirable—denizen of the rugged Rim Country of Arizona. Each year the lion competes with man for a share of the deer who live in the area.

By GASTON BURRIDGE

**D**AY WAS near its end. The copper sun shone only on the higher cliff-heads. Indigo haze, like a faded old Spanish shawl, hooded all else. I swung my field glasses in a wide sweep of the pinnacles above.

I almost slid past him with my binoculars—but not quite.

"What a cat!" I gasped.

Standing atop a high, burnt-orange ridge, ears cupped forward, neck gracefully arched, seemingly watching some far-off stir of dust, that mountain lion had more than a touch of magnificence about him. He was not a mass of knotted muscles, though he did bulge

perceptibly in places. His chest and shoulders were wide. Into them were set his heavy forelegs which ended in broad paws, equipped with murderous, retractile claws.

These Arizona Rim country cats are powerful and lithe, streamlined and jet-powered. They are long-tailed comets, prowling these forests and lofty ridges as silently as drifting campfire smoke. I said a little prayer that this region would never be without these rogues. They belong here!

There was an air of sureness in the cougar's stance. His slenderly-tapered

body, with its long back legs set in with wedges of steel-trap muscles, made capability lurk even in his shadow.

He continued to gaze far away. Was he watching a hazy movement? Perhaps he was listening for a recognizable sound. There was no evidence now, of the fierceness of his nature. Only if he should turn his rather small, flat head toward me, making it possible to look deeply into his soft, velvet, wicked eyes, would I see the flint and steel wherein lies the white-hot spark. There is the arctic-cold, the split-second savagery waiting to explode.

The panther fits these rugose canyons with as much exactness as evolution can obtain. It seemed to me this cat knew it.

Beginning at the Colorado River above Hoover Dam and swinging a broad arc diagonally across northern Arizona and southern Utah lies a wilderness not matched for variety, brilliance and sheer breath-taking beauty anywhere in the world. It begins with the accent mark of a 12,000-foot mountain peak above Flagstaff and the Grand Canyon, below. It ends in an exclamation point of 10,000-foot peaks just over the New Mexico border. Here is a mammoth expanse of twisting canyons, leaping red and ochre-colored bluffs. Here, cinnamon-barked pines, alder tangles, manzanita and junipers blur all sharp lines. This country is filled with small, swift streams, feathery waterfalls and ever-changing colors which dare the brash-est painter. Earthquake-heaved, erosion-gnawed, time-hardened—this land is one of the last habitats of the mountain lion in the Southwest.

Suddenly before my staring eyes—he was gone — gone like the tawny ghost he was.

"Adios, Sly One," I said, "And may it be long before you have to flee a pack of hounds."

Even though cougars are splendidly equipped for aggression, they eschew the company of man. They are the phantoms of the hills, the ridges, the thick woodlands. Without dogs trained to their scent, or unless one is lucky, as I was, a person might roam the puma's haunts for years and never see one. Not that they are few in number, or that man is not often seen by them—the fact is the puma is secretive and, some believe, instinctively afraid of man.

In all Arizona's history there is but one report of a man being attacked by an uncornered, unwounded, unprovoked mountain lion. There remains considerable question concerning this sole instance, however.

This big cat is probably less danger-

ous to mankind than is a mule deer buck in rut! Why? The experts don't know either! There are still many differences of opinion between observers as to the character of the panther. Like men, there never have been two pumas alike. Most hunters say this cat is a coward. Perhaps so. He may be smart, too. It could be he has learned: "He who looks, then runs away, may live to run another day!" One thing is certain, he is as unpredictable as the flight of a mayfly.

Vast differences in individual lions are pointed to by the fact that some cubs, taken early and brought up by man, grow into docile pets. They are affectionate and trustworthy. Others, often of the same litter, never can be trusted. I have found records of lions, taken when young and well trained, becoming adjuncts to the chase! However, the feline family is self-sufficient and harbors no real love for mankind. This is true of your pet housecat, too.

Arizona has an unusual distribution of mountain lion species. There are three geographical races within its borders, *Felis concolor azteca*, *Felis concolor browni* and *Felis concolor kiababensis*. Azteca prowls the high, pine-timbered mountains, the canyons and thickly bushed hills from Prescott north to Grand Canyon and Flagstaff, east to the Continental Divide, south to the border. It claims the largest portion of this region for its domain.

*Browni* lopes along the desert plains, big washes and low mountains of the Colorado River and southwestern section of Arizona, mainly in the lower Sonoran zone.

*Kiababensis* stalks the Kiabab Plateau north of the Grand Canyon and on into Utah and Nevada.

Some large pumas have been killed in the Rim country. Ben Lilly shot a couple of males reportedly weighing over 260 pounds. The largest panther on record killed in Arizona, was shot by a Government hunter, Ramsey Patterson, near Hillside, Yavapai County, in March, 1917. This cat weighed 276 pounds without entrails. From the tip of its nose to the end of its black-tufted tail, it measured eight feet, seven and three quarter inches.

Adult male panthers average between 135 to 145 pounds and females, 100 pounds. Even at these reduced figures, these cats are a set of muscles, teeth and claws and prey on animals several times their weight and size.

The panther's first choice of food is deer meat. They thrive or dwindle as deer populations rise or decline. If the puma cannot get all the deer they want, next choice of food is colt and then calf. But they will eat almost anything they can lay a paw on, large

or small. Frequently, they eat skunks and porcupines. Mice and grasshoppers are not ruled out if the lion's hunger is great enough.

The panther—male or female—will attack a full grown horse, steer or bull elk without hesitation. Old records tell of cougars bringing down full-grown buffalo.

The puma also enjoys wild burro meat almost as much as it does venison. He would like to indulge in this delicacy more often. Burros have long been plentiful in the Rim Country, but this wily little long-eared equine seldom falls prey to the cougar. Because of the burro's rocket-like kicks, its vicious teeth and its lightning-like ability to sidestep trouble it generally foils the panther.

Does the panther scream? Not many years ago this question was sure to start a lengthy argument. Now, the evidence supports the stand that the animal does scream. The puma can duplicate all the sounds of a back-yard tom cat multiplied about 20 times in volume.

Cougar meat has been eaten by man since earliest times. It has always been considered excellent. "As good as panther meat" was high praise to a cook in pioneer times. The meat tastes considerably like pork, a little like chicken breast with a touch of veal thrown in. It is all white meat and its texture is very lean. I prefer it to venison.

Give an expectant female lion her choice of abodes in which to bear her young and she will invariably choose a cave. If possible, it will be near a spring or rill, for baby lions drink a great deal of water. Young cougars have been found in every month in the year. The gestation period is about 96 days.

The kittens — usually two — weigh between a half pound and a pound, and are from eight to 12 inches long. Their bodies are heavily spotted and their tails ringed. The cubs get along well among themselves, but will fight with a vengeance any chance-met cubs.

The panther is a distinctive American predator. He has great — almost uncanny skill as a hunter, and covers a wide range. This cat is impelled through instinct to live by the only means it knows—hunting. Frequently, these ways are cross-grain to man's desires. But, there are areas on this great Rim country where the cattle business is marginal at best. It seems to me there must be places within it where the mountain lion could well be spared predatory control.

Let the panther remain one of the region's interesting assets to add his bit of color, excitement and flavor to an already delightful place.





*The annual school picnic is a popular affair on the Goshute Indian reservation. Mrs. Lily Pete, in white apron, oversees arrangements on the serving tables set out in front of the schoolhouse. Man at left is Francis Christiansen.*

# Land of the Goshutes...

One hundred years ago the Goshute Indians on the Nevada-Utah border were considered sub-savages by those infrequent white men who had contact with them. Today, without the steady dole of government aid which has come to be an accepted thing with other Indians, the Goshutes still find their high border country a rigid and harsh environment, but history has corrected itself in its appraisal of these admirable and neighborly people.

By NELL MURBARGER

Photographs by the author

Map by Norton Allen

**I** DIDN'T KNOW when I crossed the state line. Not that it mattered. Such things as political boundaries seemed terribly unimportant in the big, high aloneness that spread all around me; and whether I still traveled in Nevada, or had entered Utah, my surroundings remained unchanged.

There was the same deep, blue sky; the same rolling hills and empty valleys and mountain-hemmed horizon.

Rutted wagon tracks still led away to destinations, unidentified and unseen. There were no towns, no buildings, no road signs, no people. Nothing but height and width and time and distance—and one dusty little road binding all together like a tattered shoestring tied around the middle of the world.

This was the Land of the Goshutes. When the editor of *Desert Magazine* asked me to get a story about this small and little-known Indian tribe of West-

ern Utah, I set about doing some preliminary research. After consulting my own rather extensive files—where I found only three paragraphs on the subject—I pursued the matter through local, county and state libraries, and enlisted the aid of the Utah Historical Society. All I learned from this extensive pursuit might have been typed on a single sheet of paper.

Back in the 1850s and 1860s, when their resentment of white man's intrusion caused them to kill a few stage drivers and burn a few stations, and have their camps ravaged in retaliation by United States cavalry, the Goshutes received considerable adverse publicity. In 1863, however, they executed a treaty of peace with Uncle Sam, and insofar as the public and press were concerned, the Goshutes vanished into oblivion.

What has happened to the tribe in the 93 years since acceptance of that treaty was something I hoped

eventually to learn; but first I was learning that the Goshute Country lies a terribly long way from anywhere else!

I had driven nearly 80 miles since leaving the last small town of McGill, Nevada, the last 20 miles without sighting one operative mine or tenanted ranch house. Topping yet another hill, I ran my eyes down another long gray slope. At first, it looked like a carbon copy of all the other sage-grown slopes I had crossed in the last 50 miles. But a narrow valley separated this particular slope from the mountain range beyond, and in that valley loomed the pencil-thin spires of a few green poplar trees.

A few log buildings came into view. They appeared to be very old and unoccupied. No human being, no cattle or sheep—not even a stray wisp of

smoke—was visible. Driving down a lane of vacant cabins, I halted before a log structure newer and larger than the others where a plump Indian woman and young girl were leaning on the porch rail, watching me.

From the woman I learned that this was not, as I first had supposed, an isolated cattle ranch, nor a ghost mining camp, but was the place I had come so far to visit—the main settlement of the Goshute tribe of Indians!

Introducing myself, I explained I wanted to write about the Goshutes, the Indian woman nodded.

Shrugging her shoulders she gave me a friendly but cryptic smile. "Better see the teacher . . ."

This, I was to learn, is the Goshute's stock solution to about half the problems that arise in his daily life. If it isn't "See the teacher," it is "See

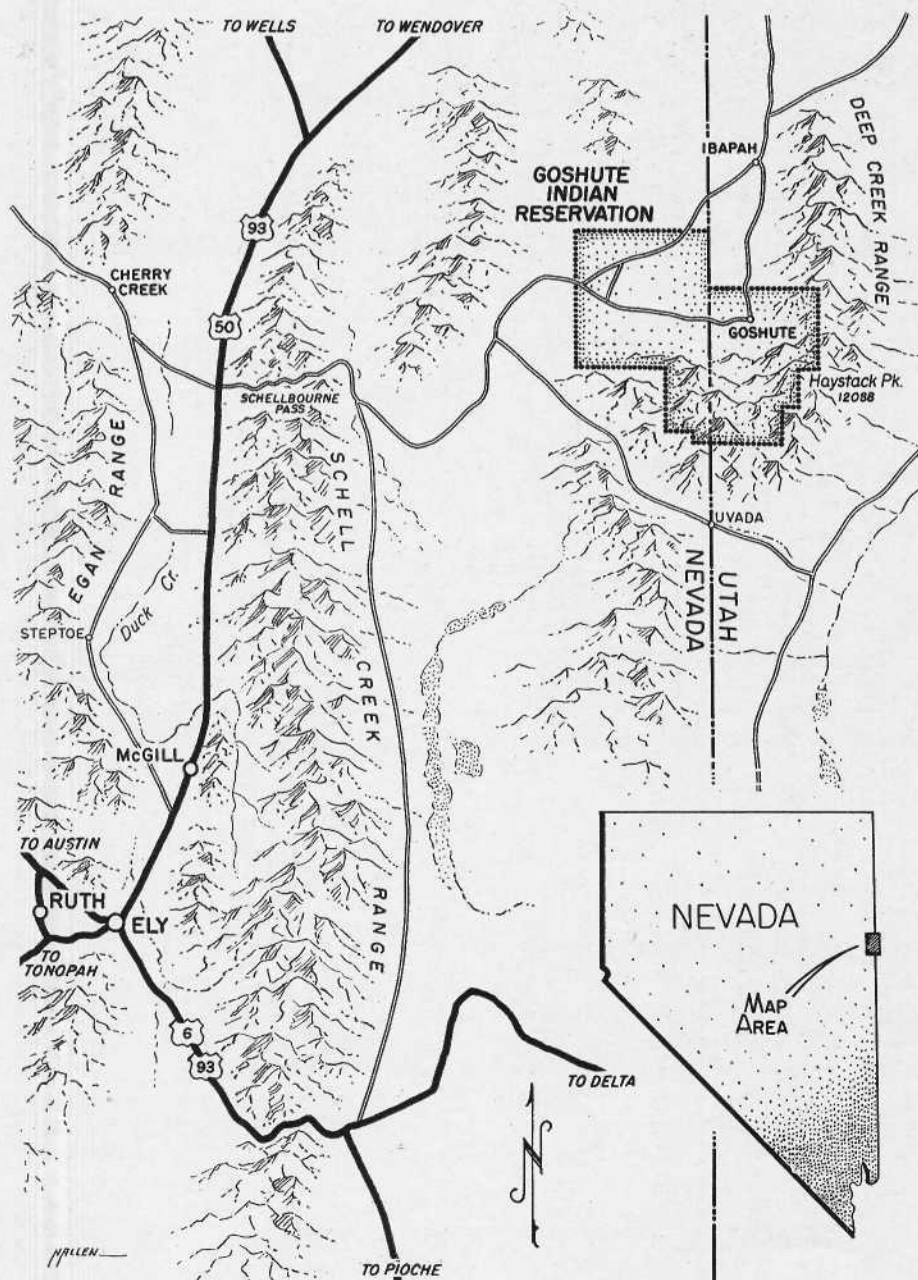
Franz," or "See the Old Man." In any case, a large share of the town's assorted dilemmas come to rest on the log doorstep of Francis "Franz" and Grace Christiansen, who, with their 10-year-old daughter, Judy-Ellen, are the only white residents on the Goshute Indian Reservation.

Grace is on the government pay-rolls as teacher, and Francis as school bus driver, but to the Goshutes, who have no resident agent, minister, doctor, nurse, trader or postoffice, the schoolhouse serves as the heart of community activities, and the Christiansens fill positions far more important than grade school teacher to 18 young Indians, and school bus driver over a 40-mile route of unpaved desert road. Along with the jobs they are paid to do, they function as Indian-agents-without-portfolio, judges advocate, vocational counselors, farm advisors, psychologists, veterinarians to horses, cows, sheep and dogs, and purveyors of emergency first aid.

"We don't claim to be all-seeing and all-knowing, but we do what we can to help our Goshute neighbors solve their problems," said Grace. "So far," she laughed, "I haven't been called upon to deliver a baby—but it is a matter of time until I will be!"

Grace and Francis were born in Utah. Franz is a little on the heavy side and facetiously describes himself as "all Dane and a yard wide." His boyhood was spent in the Ibapah Valley, north of Goshute, and he counts among his friends many of the older Indians whose children and grandchildren he is now transporting daily to school. Grace was born of Mormon pioneer parentage in the town of Brigham City. After extensive academic training she entered social service work and, in time, she and Franz obtained civil service positions in Washington, D.C. There was too much Utah red sand in their veins to be content in the effete East, however, and in the early years of World War II they returned West. Learning that the posts of teacher and bus driver were vacant on the Goshute Reservation, they applied for the jobs and began work in March, 1954.

"I can't say we were welcomed with open arms," said Grace. "For the first year we seemed to occupy much the same position as reeds in a stream of water — the Goshute life flowed all around us, and past us, but we were never a part of it. Then a few of the Indians began discussing their problems with us and we knew that our





probationary period was ending and that we were accepted."

Grace, whose life work has been with minority groups, is a loyal defender of the Goshutes.

"They're good, kind, honest folk, with a wonderful philosophy of live and let live," she said. "I'm supposed to teach them the white man's way, but when I think of the pattern we sometimes set, I wonder if we wouldn't do well to find value in the 'Indian way', instead."

This appraisal of the Goshutes came to me as a surprise, for early travelers in the West considered this sub-tribe close to the bottom of civilization's scale.

The Goshutes had been a poor, ill-fed and poorly housed band. Before the white man came, the tribe apparently had no office comparable to chief, and no centralized authority. They built no lodges but lived in circular, roofless windbreaks, built of poles and brush. Their most important winter garment had been a rabbit-skin cape, tied about the neck with a cord; and in summer, both men and women had worn little but skin breechclouts and aprons. Living in some of the most barren, unproductive country in the West, they averaged one inhabitant to each 35 square miles and, even then, found it barely possible to eke out a livelihood. As a result, according to early reports, they ate practically anything that came to hand.

Thomas J. Farnham, who visited the tribe in 1843, wrote:

"They wear no clothing of any description, build no shelter. They eat roots, lizards and snails . . . and when the lizards and snails and wild roots are buried in the snows in winter, they . . . dig holes . . . and sleep and fast till the weather permits them to go abroad again for food. . . . These poor creatures are hunted in the spring of the year, when weak and helpless . . . and when taken, are fattened, carried to Santa Fe and sold as slaves."

To avoid capture the Goshutes carried water in *ollas*, and remained away from springs where captors might be lurking.

If this report affords a true picture of Goshute life only a little more than 100 years ago, the progress made by these people has been little short of miraculous!

Today, their dress is much like that of their white brothers. They eat food from the white man's store, read newspapers and magazines—have their favorite radio programs, and live in small, weather-tight log houses, suited to the rigorous climate of the Goshute country.

During the Depression of the 1930s



*Grace and Francis Christiansen and daughter, Judy-Ellen, hold a one-sided conference with a young Goshute, three-year-old Herman Bishop. The Christiansens are the only white residents on the reservation.*

a compassionate but ill-advised Uncle Sam took pity on these tribesmen in their rude dwellings and had the Civilian Conservation Corps build for them a dozen neat log cabins.

The cabins are still standing along the main street of Goshute—but no one lives in them.

"We can't live in them," one Indian girl told me. "We'd freeze to death! The government just didn't know how to build warm cabins . . ."

Uncle Sam's cabins, it seems, were built of green logs; the logs, in curing, shrank away from the mortar chinking, and before long the chilling winds of this high elevation were whistling mournfully through the thin walls. The main settlement is at an elevation of 6200 feet above sea level, and 12,088-foot Haystack Peak, in the Deep Creek range immediately behind the town is crowned in white through the greater portion of each year. Snow comes early to the valley and lingers late; and, sometimes, it lies deep. One morning last year the Christiansens awakened to find four feet of snow in Goshute — all fallen during a single night!

But snow in such volume is a rarity, and the main problem of the Goshute country remains a lack of water.

It always has been so for even the tribal name, Goshute, is said to mean "The Dusty People." Yet, within memory of older Goshute tribesmen,

the snow-fed streams that poured into the valley once were adequate for a population of 500, while today the water volume has so seriously diminished that only 18 families, comprising 140 individuals, make their homes on the reservation.

This water shortage, precludes the possibility of the Goshutes raising their standard of living through farming. Only two or three families have wells or springs which provide enough water to irrigate small garden plots. Franz took me down in the valley to visit Old Albert, preeminent gardener of the tribe, who owns a team of horses and cultivates a small plot of bottomland where he raises excellent strawberries, peas, green beans, onions and other crops suited to a short growing season. But Albert is lucky. He has the means of irrigating his fields. Few Goshutes are that fortunate.

Except for this water shortage, the tribe also might engage profitably in cattle ranching.

In past years, according to the Christiansens, a considerable amount of money was spent by the Indian Service to purchase land and get the Goshutes started in the cattle business. Boss farmers, or superintendents, were in residence for several years; but due to involved economic factors the plan did not work out as contemplated and today the Goshute herd numbers less

than 100 head of cattle, and 350 head of sheep—including both individually and tribally-owned animals.

In some sections of the reservation there is good grazing for both sheep and cattle, and a large brush area has been reseeded by the Indian Service recently. The tribe owns four purebred Hereford bulls, two others are privately owned, and several Indian families are rebuilding their depleted herds. But this is a slow undertaking. At the present rate of increase, it will be several years before the tribe will have enough stock to fully utilize the range area, and, even then, there will still be the looming spectre of aridity. Unless deep wells can be developed, or there comes a sharp and unforeseen upswing in natural precipitation, there is not enough water on the reservation to guarantee adequate winter feed for a large herd.

Members of the Goshute tribe have never received a tribal allotment from the government, and Goshute economy, as a consequence, operates on the subsistence level. The only chance for outside employment is in tending or shearing sheep for the few white ranchers of the surrounding area.

Women tan buckskin and make gloves and moccasins, which are skillfully fashioned, but in this remote land, far from any tourist center, there is little outlet for such material. Some of the boys also run traplines in winter and derive a little spending money from their catches of coyotes, bobcats and muskrats. But taken altogether, and from every source, the yearly income of the Goshute Indians probably averages little more than \$500 per family—and among The Dusty People, families are large!

With the nearest Indian agent at Owyhee, Nevada, 300 miles distant, management of the Goshute Indian reservation would be almost impossibly cumbersome were it not for the Goshute Business Council, a responsible and conscientious self-government group with five Indian members, each elected for a three-year term. At the time of my visit to the reservation, this group was headed by Bob Steele, scion of an old Goshute family whose sundry branches now comprise a major portion of the tribe's population.

According to the constitution and by-laws of "The Confederated Tribes of the Goshute Reservation," as adopted in 1940, this council has the power to negotiate with federal, state and county governments, employ legal counsel, veto any sale, disposition, lease, or encumbrance of tribal lands or assets, manage all economic affairs and enterprises of the reservation, and promulgate and enforce ordinances,

subject to the approval of the Secretary of the Interior.

Land in the Goshute reservation is held under a system of stewardship somewhat different from that prevailing in most other Indian reserves. While the lands are held as a tribal trust, and may not be mortgaged or sold, the right to use specific tracts is assigned to individual members of the tribe, or to families. If a family holding such an assignment fails, for a period of two years, to use the land in accordance with their contract, or uses the land for unlawful purposes, the assignment may be canceled by the business council "after due notice and an opportunity to be heard." While lands so held may not be bequeathed to heirs, any person designated by will, or written request, is given preference in the reassignment of the lands by the council.

Few members of the tribe subscribe to the white man's concept of religion.

"Two Mormon missionaries are assigned to this district and several of our Goshutes have been converted to the Mormon faith, but I don't think there has ever been any general religious fervor," said Franz. "They have a complicated religion of their own. It embraces reverence for the earth and sky, and sun and moon; but we still haven't been taken into their confidence deeply enough to know exactly how it operates."

The Goshutes have few public ceremonies. Their chief ritual in past years has been the Bear Dance, performed at irregular intervals. At the south edge of town is a rude enclosure built of poles interwoven with willow brush. It is here the band gathers for the annual fandango, which embraces several days of singing, dancing, feasting, drinking and gambling. But even the fandango seems to be losing its appeal, and Franz said he doubted if many more of them will be held.

Although the Goshutes recognize and obey the white man's law as well as the average white man obeys it, they also have laws of their own, just as binding as anything in Blackstone.

In the matter of marriage, in particular, the Goshute holds largely to his own time-honored customs and few of their marital unions are legally sanctified.

"Personally," said Grace, "I don't think it is so much a matter of holding to Indian tradition as it is a matter of inconvenience."

In order to be married in "White Man's style" the principals must go to a county seat to procure a license, which means either a 90-mile trip to Ely, or nearly 200 miles to the nearest county seat in Utah.

"Since much of this distance is over rough roads, barely passable at some times of the year, it is certainly not a trip to be undertaken lightly—particularly in old, worn-out cars, which may break down. As a consequence most of the young people marry in the Indian manner, and it seems to work out very well. The family is the basis for the social structure, and is a clearly defined unit."

Health of the tribe is above average. The Public Health Nurse, Mrs. Lydia Pescovich of Ely, visits the reservation once a month and usually brings with her an Ely doctor. The two conduct a clinic and as a result of her enthusiastic efforts, a preventative medical program of near 100 percent immunization and careful clinical diagnosis is maintained.

The Tribal Business council has set up a fund for transportation of any member of the tribe who requires hospitalization; and most of the emergency dental needs of the school children, during the past year, also were met by drawing on the Tribal Fund. Eye examinations and corrective measures were provided, last year, by the Lions Club of Ely, and the only crippled child in the tribe is at present receiving surgical treatment through the Crippled Children's program, at a Reno hospital.

The only major disease afflicting the Goshutes is tuberculosis, which stems from unbalanced diet and sub-standard living conditions. Treatment is immediate whenever presence of the disease is suspected; X-rays are provided, and follow-up on arrested cases is thorough.

Many years ago, according to some old men of the tribe, the peyote cult was imported into the Goshute country from Mexico and Texas where it then was very prevalent. This insidious drug is believed to have been largely responsible for a serious reduction in the tribal population; but, so far as is known, Goshute use of the narcotic has been discontinued.

The Goshutes are of Shoshonean stock but although the language they speak is similar to the Shoshonean tongue, there is enough difference that members of the two tribes can barely understand one another. There seems little danger that the Goshute language will become a forgotten tongue in the foreseeable future. One of the chief challenges Grace has had to face is to get the children to speak English.

"Before I can teach them anything," laughed Grace, "I first have to teach them to speak English! They seldom hear any language but Goshute in the home; and sometimes it seems to me



it is the only language I hear on the school grounds!"

The children, she has found, are eager to learn, and their capacity for learning is good. Ironically, perhaps, the accomplishments in which they excel are music and art—neither of which is taught in the Goshute school. After hearing a piece of music played two or three times, one little girl of six years can go to the piano and pick it out, one note at a time.

My visit to the Goshute country had not been planned to include the last day of school, but when the Christiansens said a big picnic was planned for that occasion and all the Indians on the reservation would be in attendance, I quickly reshuffled an always elastic schedule to embrace this event.

The day before the picnic found the school house a buzzing hive of activity. Grace was busy with her year's end reports; Judy-Ellen (whose school in the valley had closed for the summer) and four of the older Indian girls were sweeping the floor and dusting the bookshelves. A small, manually-wound

phonograph was blaring forth "Redwing," two six-year-old Goshutes were at the blackboard drawing wild-looking cowboys, riding wild horses and roping wild steers, and in the school kitchen, Mrs. Lily Pete—the woman I had first met on the schoolhouse porch was busy baking for the coming picnic. Already that morning she had fried a six-gallon kettleful of savory, golden-brown doughnuts, and she and a 14-year-old helper were then in the midst of building 15 apple and cherry pies.

The day of the picnic found a chill wind sweeping down from the snow-blanketed 12,000-foot crest of the Deep Creek Range. The sky was blue, however, and the sun was shining. The old apple trees at the edge of the schoolgrounds were in blossom and out along the dusty country road that bisects the settlement, bloomed a bright fringe of lupines and yellow daisies, and a mat of prickly phlox.

Although the picnic was not scheduled to start until noon, Franz set forth in the school bus at 8 a.m. for

the usual tour over his 40-mile desert route; and while absenteeism is always lower than in the average public school—on this morning there was no absenteeism, whatever! Some of the youngsters, Franz learned, had been waiting at the bus stops for more than an hour before his arrival. In addition to the score of boys and girls brought in by bus, mid-morning found other Indians pouring into the schoolyard from all corners of the reservation of every age, from fat brown babies in cradleboards, to venerable grandmothers.

Sight of a long table heaped with picnic viands seemed to exert a bad influence on the youngsters' appetites, and in order to keep their minds off their respective stomachs, Grace organized a couple of sets and launched a square dance. The fact that the dancers ranged in age from little pig-tailed girls of five and six years to man-grown boys of 15, was cause for considerable scrambling in some of the changes. But no one seemed to mind, too much, if his partner's head

*Mrs. Arlene P. Moon and her children Dale and Yvonne, in cradleboard, at the school picnic.*

*Harlan Pete and Willis Benson McGill barbecue their weiners. In background is Deep Creek Range.*



reached only as high as his belt buckle, or that he had to get down on his hands and knees to pass through some of the "arches."

Franz and a bevy of boy-helpers kindled a sagebrush bonfire in the schoolyard. A table was carried from the kitchen, the assorted picnic fare was arranged upon it, an eager line quickly took form, and Grace, Lily, and several of the older girls began serving weiners, buns, potato chips, olives, doughnuts, pie, fruit punch and all the marshmallows anyone wanted to toast.

Several cradleboards were in evidence. The one holding David Leo Pete, Lily Pete's newest contribution to the Goshute population, was being manned by an older sister, Genevieve, who did not seem to mind in the least that she had been elected to serve as baby-sitter. When she and another girl dashed off to a nearby willow thicket to cut wands for roasting weiners, the cradleboard bounced up and

down on her back, like a cork on a choppy sea. But instead of becoming seasick, David Leo was happily beating the air with his tiny fists and his delighted crowing continued all the while his baby sitter was stooped over the bonfire, roasting her weiners. Yvonne Moon, another cradleboard habitue, spent a good share of the day contentedly gumming potato chips.

During the first hour of the picnic, 200 lunches were served, and issuing of second and third helpings continued until three o'clock that afternoon. After every Goshute stomach was filled, the last game finished, and the last impromptu footrace run, Franz marshaled his charges together, packed them into the school bus, and started back over the 40-mile route to deliver them to their respective homes.

That evening, with another school year ended, and the vanguard of another summer stealing across the sage-lands and into the aspen-fringed canyons of the Deep Creek range, the

Christiansens and I sat in the small living room of the government provided teacherage and talked of many things—of Indian babies, and city traffic, and world unrest, and chokecherries.

And it wasn't at all difficult to sift that conversation and see that even after 15 months' residence on the Goshute Reservation, Grace and Franz Christiansen are very much in love with this life they voluntarily chose. To the average city dweller, the most frightening aspect of such a life would be the extreme isolation it entails. But this does not bother the Christiansens.

True, there is no TV reception at Goshute, and the nearest telephone is 25 miles away; but a short-wave radio bridges the gap of communication, and a home movie projector and shipped-in films bring once-weekly entertainment to the reservation. Mail consigned to the settlement is delivered twice weekly to the old Pony Express station of Iapah, 12 miles distant over unpaved roads; and except for the one small business house at this place—where Betty Calloway operates a general store, postoffice and gasoline service station, all under one roof—the nearest town to Goshute is Wendover, 52 miles away, and scarcely more than a village itself. Anything not procurable at Wendover must be obtained at Ely, or from Tooele, or Salt Lake City, both 175 miles easterly beyond the Great Salt Lake Desert.

When Judy-Ellen reaches high school age in four years, some arrangement will have to be made to complete her schooling; but, even this, the Christiansens are certain, will work itself out.

"Even if we have to take a temporary transfer to some town where she can attend school, we'll be looking forward to the day when we can return to the Goshute country," said Grace. "This is more than a job to us, you know—it is our home!"

As we talked, I looked out the open door toward the west where the last bright tints of sunset were fading into mauve and gray. Shadows, like dark velvet, had spread themselves over the distant range of hills, a few stars were beginning to wink in the sky, and somewhere in the brush back of the cabin, a couple of quail were engaged in quail conversation.

"We like it here in Goshute," Grace was continuing. "We like our work and the satisfaction it gives us. We like the land and the climate. But, most of all, we like our friends, the Goshutes, the Dusty People. They're good neighbors."

While I didn't mention it at the time, I secretly suspect that folks like the Christiansens will find good neighbors wherever they go.

## TRUE OR FALSE

One way to become better acquainted with the Great American Desert—its history, geography, Indian culture, botany, minerals and wildlife and lore is to take the True or False test in *Desert Magazine* each month. If you are an average tenderfoot you will not get over 12 correct the first time. But your score will improve as the months go by. Fourteen to 15 is a fair score, 16 to 18 is excellent, over 18 ranks you as a sand dune sage. The answers are on page 39.

- 1—The burro is a native of the Southwest desert. True..... False.....
- 2—Lowell Observatory is located on Telescope Peak. True..... False.....
- 3—Arizona was once a part of New Mexico territory. True..... False.....
- 4—To establish a mining claim it is necessary to put location notices at all four corners. True..... False.....
- 5—Horned toads belong to the lizard family. True..... False.....
- 6—Cliff dwelling Indians of the prehistoric period pastured their horses in stone corrals. True..... False.....
- 7—Chief Winnemucca was a Paiute Indian. True..... False.....
- 8—Pumice stone is of volcanic origin. True..... False.....
- 9—Squaw Cabbage is the name of a vegetable cultivated by desert Indians. True..... False.....
- 10—Roosevelt Dam was named in honor of former President Theodore Roosevelt. True..... False.....
- 11—The blossom of the creosote bush is pink. True..... False.....
- 12—Native Joshua trees of the Southwest are found only in California, Nevada and Arizona. True..... False.....
- 13—The present Salton Sea was formed by flood waters from the Colorado River in 1911. True..... False.....
- 14—The Navajo Indians started their herds by domesticating wild sheep they found in the mountains. True..... False.....
- 15—The Great Salt Desert lies west of the Great Salt Lake. True..... False.....
- 16—Boron, California, is associated with the mining of borax. True..... False.....
- 17—Chalcedony roses belong to the quartz family of rocks. True..... False.....
- 18—The capital of New Mexico is Albuquerque. True..... False.....
- 19—The Wasatch Mountains are visible from Las Vegas, Nevada. True..... False.....
- 20—Tuba City is the name of a town in Arizona. True..... False.....



# Saga of Frying Pan Ebbens

By EDMUND C. JAEGER, D.Sc.  
Curator of Plants  
Riverside Municipal Museum  
Sketch by Raymond F. Cox

**I**N THE WINTER of 1914 there fell into my hands John Muir's inspiring book "A Thousand Mile Walk to the Gulf" in which he described his foot journey from the wilds of Wisconsin south along the Mississippi to New Orleans, a journey very rich in adventures and in experiences with creatures of the wild.

"Why not a thousand mile walk for myself?" I asked. "In my Southern California mountains and desert I too may have high adventure in travel. The only way to really know one's country is to see it on foot. If Muir could do it so can I."

So with knapsack loaded with a few simple foods and two blankets I set forth, like Muir before me, determined to make my way over a thousand miles of trail. And before a year passed I had accomplished my goal. I now look back on that experience as the most precious and instructive of my life.

Often as I sat in the shade of some trailside bush and studied my maps I was fascinated by the many descriptive place names. As the opportunity came I visited the places and sought information which would help to explain why such names were given. Some were easy to trace while others were very obscure and required all the ingenuity of a detective to find the sources from which they sprang.



**Ebbens Creek and Ebbens Valley!** For 30 years Edmund Jaeger tried to piece together the information which would explain the origin of these place names on the map of the Santa Rosa Mountains. And now the story is told for the first time—the story of an old prospector who found a little gold and infinite peace in the remote canyons of the Southern California desert.

Among the most difficult were two found on a Southern California Geological Survey map of the Indio Quadrangle. They both commemorate the work of a man named Ebbens. One is Ebbens Creek running into Dead Indian Creek west of the lower part of the Pines to Palms Highway on the western rim of the Colorado Desert near Palm Desert; the other is a brush-covered mountain vale, Ebbens Valley, southeast of scenic, pine-clad Toro Peak in the Santa Rosa Mountains.

"Who was this man Ebbens?" I repeatedly asked folks I met. "What did he do that made such an impression on the map-makers that his name is found twice on a single Geological Survey Map?"

I wrote to the office of the United

States Geological Survey in Washington seeking information concerning Ebbens, feeling that certainly the men there at least might tell me what Ebbens' first name was or his initials. The Geological Survey answered that the chief surveyors who prepared the maps were no longer living and that a perusal of their notebooks gave none of the information I sought. This was most disappointing.

About this time Carl Eytel, the German artist who lived near me at Palm Springs, told me that Ebbens was a prospector and that he had once seen him in town with his burros. And another acquaintance who lived near the Salton Sea said he too had once seen Ebbens at Mecca with his donkeys but he could tell me little more. For a long



*The rugged coyote trail to Ebbens Creek leads up Dead Indian Creek, pictured above. The palm oasis in the foreground is at the junction of Dead Indian and Ebbens Creeks. Both canyons have many fine groups of native palms.*

time this scant bit of information appeared to be all I would ever get.

On a hot summer day in 1941 I found the clue I so much wished in the column in the *Riverside Daily Enterprise* entitled "Twice Told Tales." Two lines under the part of the column telling of events 30 years ago said: "Theodore Ebbens, the prospector, is in San Jacinto outfitting himself to go up to his mines in the Santa Rosa Mountains."

At last I had something definite to work on: the man's first name and a confirmation of his activities. But continued searching and inquiry during the next 10 years yielded little more of the information I sought. It seemed my

road had come to another frustrating dead end.

In the meantime I decided I must visit both of these remote places set far away from highways and even man-made trails.

Ebbens Valley is reached by going up wild, rock-walled Martinez Canyon almost to its end and then turning west up a smaller side canyon. Water flowed part way down Martinez Canyon and a small spring quenched our thirst in dense, brush-covered Ebbens Valley. Theodore Ebbens had probably spent time in this secluded vale hidden in the evening shadows of Toro Peak because here he found opportunity to camp in comfort with his burros at a

good water hole. He evidently was one of those simple, wholesome souls, who, free from all other worldly engagements and thoughts of obligations to society, was about as happy at sedulously hunting his precious minerals as actually finding them. He gleaned his greatest pleasure from freely sampling the simple life of the open. If he found a little pay dirt that was good too, but life's joy never depended upon it.

Ebbens Creek, which is really no creek at all but only an open and shallow scenic gulley, is reached by following a small canyon leading off of Dead Indian Creek, then swinging to the right over several steep rocky ridges on trails known only to the coyotes and foxes. It was a little tough going at times but the splendid views of distant desert and the beautiful agave and ocotillo-filled natural rock gardens along the way made us forget our exertions. Most exciting of all was the finding of numerous spoor of the desert bighorn and finally seeing two fine adult rams accompanied by an ewe. They, as usual, seemed most willing to let us have a good look at them and then exhibited their splendid powers of going rapidly but with greatest grace and ease, over the rocky terrain. At Ebbens Creek we beheld a splendid group of Washingtonia palms full fronded to the base and all unspoiled by the fire vandals. No wonder Theodore Ebbens claimed this lovely spot. In the spring season it must have been a fine locus for his camp, for then the group of palms are surrounded by a glorious wild garden of flowering annuals and blossoming shrubs. At that time too the place was probably the source of a tiny streamlet which could be heard tinkling its way over the rocks and meandering languidly down the clean, sandy, flower-bordered wash. Indeed nothing was wanting to make a paradise of this secluded vale.

One day years later while visiting Miss Cornelia White, long-time resident of Palm Springs, I got some additional information about Ebbens that explained his visits to Mecca.

"In the early days of Mecca's history," recalled Miss White, "there was a Mrs. Brockman who spent some years there as a waitress in an eating house. She took the position under disguise so she could pick up information on old mines which prospectors, eating at the restaurant, would talk about. Ebbens went to Mecca to trade and he suspected that she must know some fabulously rich prospects which might also interest him. Secretly he followed her when she went into the hills. I don't think she ever divulged to him any knowledge she had of mines. One thing I remember Mrs. Brockman tell-



ing me about Ebbens was that he wore a very small shoe, much like a woman's."

In the village of San Jacinto I figured there must be someone still alive who knew more about Ebbens. It is a place where quite a number of old-time prospectors and cattlemen spend their declining years. I was directed to see old Dan Tripp who proved to be the very man I was seeking.

Dan is a quiet, conservative, friendly man and I felt at once that I could trust him to sell me only the truth.

"Yes, I remember Ebbens," he said. "He was a German who spoke broken English. His words always sounded chopped up. He used to spend considerable time in the Santa Rosa Mountains and down in Coyote Canyon. First he had winter camps in the upper end then later he moved down near old Doc Beatty's place. Ted, as we used to call him, was a small, clean-shaven man, single, good hearted and quiet—only weighed about 130 pounds.

"You can say of Ebbens too, that he always had plenty to eat at camp. Those days if a man had a shotgun and could get hold of a few beans, some bacon, salt, coffee and flour he could always make a living.

"As a prospector of the late 1890s and 1900s Ebbens was distinctly very much of a burro man, never much in a hurry and always drawn by the pull of the wilderness. He generally had four or five of the amiable beasts, sometimes more."

"Among Ebbens' eccentricities," said Joe Hickocks, an old prospector I met in Brawley, "was his love and deep regard for frying pans. As his travels lengthened and the years went by he managed to acquire an unbelievable number of them. Always he had at least a dozen, sometimes more, certainly many more than he ever had use for. These he had probably found around old deserted miner's camps and he just was not able to resist picking them up and adding them to his already plentiful stock. To him they must have been a symbol of opulent living and it is said that whenever he set up a new camp one of the first things he did was to nail up a long crosspiece to a tree and proceed to make a proud display of his skillets, new ones, old ones, large ones and small ones.

"When the government surveyors were working on the map of the Santa Rosa Mountains they hired Ebbens to pack in supplies for them. He knew that country like a book and was a valuable man to show them around. Maybe they were hard up for names but I think they just kinda liked old Ebbens. At any rate they named two of his old hang-outs after him and that's how his name got on the map twice."



## Says HARRY OLIVER:

—the ol' Mirage Salesman of Thousand Palms, California

It is a mark of intelligence, no matter what you are doing, to have a good time doing it.

\* \* \*

A feller with long whiskers hates to carry a baby.

\* \* \*

Relaxation don't tire you so much in the desert as other places.

\* \* \*

Nothing has happened tomorrow.

It's no disgrace to be poor, but it might as well be.

\* \* \*

As I look out the window here at Old Fort Oliver I think how amazing Nature really is, I marvel at the very thought of growing a fly swatter on the rear end of my Burro, and always with wonderment I watch my pet Tortoise put his feet in his pockets and then swallow his head.

(Reprinted from Harry Oliver's *Desert Rat Scrap Book*, which, "due to the increased cost of printing and mailing, taxes and inflation . . . comes to you for a lousier lousy thin dime than formerly.")

## SOUTHWEST RIVER RUNOFF FORECASTS SHOW EXTREMES

The water supply outlooks for the major streams of the Southwest vary greatly. The Great Salt Lake Basin watershed received above normal precipitation during the fall and early winter while the lower Colorado and Rio Grande basins received below normal rainfall. The upper Colorado basin shows extremes in rainfall of from 125 percent of normal to 40 percent of normal.

Forecast for the headwaters of the Colorado and for the Taylor River is for runoff near the 1938-52 average. The Uncompahgre and Dolores Rivers in southwestern Colorado are less promising with 75 percent of average predicted. Only 55 percent of average is indicated for the lower reaches of the Dolores. The main stem of the Colorado, as measured at Cisco, Utah, is forecast to have streamflow of about 85 percent of average.

The general outlook for the Green

River basin is favorable. The upper Green basin in Wyoming is expected to have runoff varying from 110 percent to 120 percent of the 1938-52 average. Near-average runoff is predicted for the Yampa and White Rivers in Colorado and for the Duchesne River in Utah. Forecasts for the other Utah tributaries are less promising with 69 percent of average indicated for Price River at Heiner and 86 percent of average for Huntington Creek near Huntington.

Runoff for the Animas, Los Pinos and other northern tributaries of the San Juan River is expected to be from 65 percent to 75 percent of average. For the main stem of the San Juan at Farmington, New Mexico, and Bluff, Utah, the forecast is 65 percent of average.

Precipitation has averaged much below normal over the lower Colorado River basin. The Little Colorado River near Woodruff, Arizona, is expected to have only 25 percent of average

runoff. The Gila River basin is expected to have 53 percent of normal runoff at the Verde River above Horse-shoe Dam and only 36 percent of average for the Salt River near Roosevelt, Arizona. Only 20 percent to 30 percent of the 15-year average streamflow can be expected for the upper Gila.

The water supply outlook for the Rio Grande Basin varies from 52 percent of normal for the Rio Grande at Otowi Bridge, New Mexico, to 78 percent of average for the extreme headwaters in Colorado.

The Great Salt Lake Basin will see 115 percent to 130 percent of average streamflows in the Bear, Logan and Weber Rivers; 130 percent, Ogden River; 117 percent, Provo River; 125 percent to 130 percent, Humboldt River; 170 percent, West Walker, Truckee and Carson Rivers; 135 percent, East Walker and Owens Rivers.

The Mojave River in Southern California is expected to have only a 40 percent of average runoff. The outlook for the Sevier River basin in southern Utah is for a low streamflow of approximately 54 percent of average.

• • •

## FRED HARVEY TO OPERATE DEATH VALLEY RESORTS

Announcement was made recently that the Fred Harvey hotel and restaurant chain will take over the operation of the Furnace Creek Inn and Furnace Creek Ranch in Death Valley National Monument, and the Amargosa Hotel at Death Valley Junction. The operational transfer will be made from Death Valley Hotel Company, Limited, to the Harvey organization about the first of May, at the end of the current season, according to provisions of the long-term lease agreement.

The Death Valley properties involved in the lease to Fred Harvey were developed by the Pacific Coast Borax Company, a division of Borax Consolidated, Limited, of London, England, known for its borax mining activities in Death Valley and its famous twenty mule teams.

The Harvey company owns and operates hotels and other tourist facilities and services on the South Rim of Grand Canyon National Park and has operated hotels, restaurants and shops in the Southwest since 1876.

"Our company is especially interested in taking over these Death Valley operations because they follow so well the pattern of other resort operations in the Southwest and, located as they are in an ideal winter resort climate, the Death Valley operations will effectively round out our other interests," Byron Harvey, Jr., chairman of Fred Harvey, declared.

## THE *Desert* MAGAZINE CLOSE-UPS

*Desert Magazine* and its rock-collecting readers lost a good friend on January 4 when Guy Hazen passed away at the Fort Whipple hospital at Prescott. Cancer was given as the cause of death.

Guy was a field paleontologist for many years for the American Museum of Natural History. While he was not a trained scientist, he had acquired an excellent working knowledge of both geology and paleontology and was always bringing to light new fields he had discovered in the remote sections of the Southwest.

His most recent contribution to *Desert Magazine* was a year ago when he guided Harold and Lucile Weight to a field of musical rocks in western Arizona (*Desert Magazine*, May '55), a field trip which attracted wide attention among both collectors and geologists.

Never in good health, Guy lived almost constantly in the open, and his friends and companions often were amazed at his stamina in following the desert trails with pack and prospector's hammer. He spent many months in Whipple hospital two years ago, and appeared to have recovered his strength, but returned in December and received the best of medical care until the time of his death.

His home had been in Kingman for 16 years where he was a member of a surveying crew. His age was 62 and he served in the Army during the First World War.

Survivors are his two sisters, Mrs. Lucy Leach and Mrs. Anna Wood of Bremerton, Washington; and a brother of Norfolk, Nebraska.

Full military honors were accorded him after a service conducted by Rev. Paulding B. Forry at the Whipple Chapel. Burial was in the Whipple Cemetery.

\* \* \*

Rev. Norman M. Sorensen, author of this month's true life experience, "Bill Williams on the Rampage," has been pastor of the Pioche, Nevada, Union Church for the past 16 years. He writes that "life has been more routine at Pioche than it was on the California-Arizona border, to say the least!"

In addition to his pastoral work, Rev. Sorensen is a laboratory and X-ray technician for two hospitals in the area and does "a little maintenance work on refrigerators and appliances on the side." In his spare time, when he can find some, he teaches piano and his hobby is photography. The Sorensens, who celebrated their 25th wedding anniversary on January 1, have three boys and two girls—all of them musicians except the youngest, who is seven and still learning.

Rev. Sorensen is an ordained Baptist minister and a graduate of Willamette University in Oregon. He did graduate work at the Los Angeles Bible Institute.



# HOME ON THE DESERT

## Olive Trees for Shade and Beauty

Homeowners everywhere, but especially those on the desert, know the value of trees to their landscapes and this month Ruth Reynolds suggests that you investigate an unusual and striking tree—the olive—if you are thinking of planting trees on your property.

By RUTH REYNOLDS

Photographs by Helen Gardiner Doyle

**S**PRING COMES early to the low desert — slightly ahead of its official arrival date, March 20, and lingers briefly — so briefly that some say the desert has no spring. But, they are wrong. They are newcomers, still unaccustomed to a land where fair weather prevails and the seasons change so subtly.

I should know, for I was a newcomer once, and the coming of spring always reminds me of a very special friend who was a newcomer here in Tucson in the 1890s.

She is Marilla Guild, a gentle, intelligent woman who has lived in and loved the desert now for more than half a century, but who too once said: "The desert has no spring," because it had no burgeoning trees—and no lilacs like those that bloomed around her childhood home in Oregon.

In recent years I have gone often to her home on Olive Road, a short, olive tree-lined street leading to the University of Arizona campus.

To walk in the shade of those trees is a pleasant experience, and a real incentive to use more olive trees for street planting and home landscaping.

When nostalgic March winds rustle the olive branches, I remember that my friend walked this street when it was bare of trees and known only as "Professors' Row," and that she once

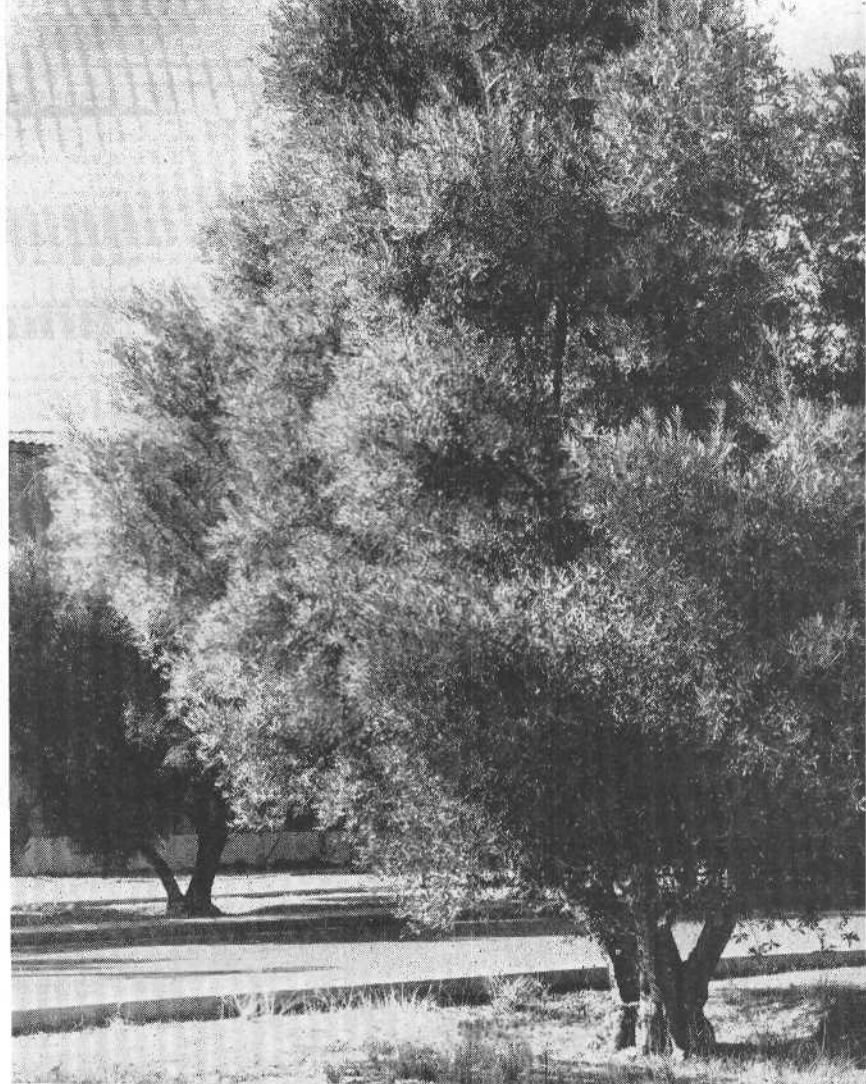
looked about her home and said, "I would give all I own for a red brick walk and a lilac hedge in bloom."

Lilacs have been a faded dream for many on the low desert, dimmed by many bright, brief springtimes. But, today, these dreams can turn to reality because of recent improvements of the Persian Lilac (*syringa persica lacini-*

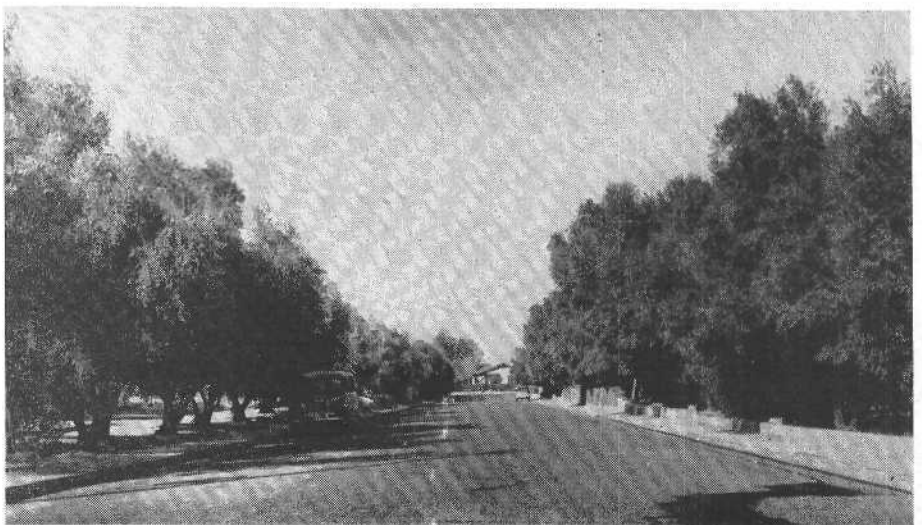
*ata*) strain. This lovely plant blooms in early spring and its fern-like foliage makes it an attractive shrub during summer.

The lilac is no stranger to the high desert. A lilac festival is held each spring in Palmdale, California, where the Woman's Club, led by Mrs. Craig Wilson, has promoted the planting of

*One writer estimates the value of the 60 trees along Olive Road at \$30,000.*



*Olive trees like the low desert country, need very little care.*



several varieties of lilacs in homes, churches, schools and parks for many years. Several commercial farms raise lilacs there for the Southern California market. The blooming of the lilacs attracts thousands of persons to the community—a wonderful testimonial to the power and beauty of flowering plants — and community cooperation.

Landscaping was a problem for the Guilds when they moved to Professors' Row in the early days. Gardens they had known were not to be duplicated on the desert.

In the back yard they grew, from a seed, a prized palo verde tree whose life span was 54 years. There also they planted cuttings of a strange, fast growing tree, the tamarisk, native to North Africa. The University had a few years earlier received from Tunisia four live cuttings from which enough tamarisk to fill a sizeable forest were to be propagated in Arizona. The Guilds were well pleased with theirs, and some of them are still growing.

Mrs. Guild's neighbor on Olive Road is responsible for the olive trees. He is Dr. Robert H. Forbes, for 40 years a member of the State Legislature and for many years Dean of the University's

Agriculture College, who first planted olive trees on Professors' Row in 1900. Thirty years after he launched his project, Dr. Forbes had succeeded in planting olive trees on both sides of the street—except for four pepper trees that grew on Mrs. Guild's front lawn.

The pepper trees flourished and failed. They grew rapidly but soon became almost too large for the space they occupied. They eventually developed root rot—and possibly trunk rot—and had to be removed.

The death of a tree, especially in the desert, is not to be taken lightly and Marilla saw hers go with a heavy heart.

After their demise she felt that to replace them with anything but olive trees would be uncooperative, to say the least. One of her sisters, who came to live with her after Dr. Guild's death, raised an objection: "They'll bear olives, you know, and olives fall off and make a mess on the sidewalk." Marilla knew from long experience on Olive Road sidewalks that this is true, but answered:

"Not in my lifetime—they grow too slowly."

But, she was mistaken. Within five

years the olives bore fruit and in another five years they were almost as large as the older trees along the street. Today they are among the largest and most beautiful.

They were six to 10-foot nursery plants when they were set out in 1942. They have grown rapidly, for olive trees, because they have been well cared for and were well planted. Mrs. Guild, not sure that root rot was not contagious, had all of the old soil dug up and hauled away with the dead pepper trees. The six by six-foot holes were filled with fresh soil and fertilizer.

Olives are among the longest living of all trees. As ornamental shade trees they are becoming increasingly popular in Tucson. They are evergreen, with a maximum spread and height of 30 feet. Their foliage is a neutral green that blends with the desert's subtle coloring and with other plants. They require little or no pruning but may be shaped to form single trunks, or left to develop into multi-trunked trees. Under natural arid conditions they are slow growers but planted in good soil and watered freely, they grow fairly fast. The mess made by their fallen fruit occurs in the fall, but does not seem to weigh too heavily against them. Many people, including Dr. Forbes, pick and process their olives for table use.

On the desert the olive is immune to the fungus which is its chief enemy in coastal areas. The trees are hardy to our coldest temperatures and can survive for long periods without water for their leaves can stop transpiration in times of drouth.

Being so adaptive to our desert conditions, they are able to some extent to shift for themselves, but those trees on Olive Road have always had good care, nor are they ever likely to be neglected. They are too valuable. According to John Harlow, writing in the *Tucson Daily Citizen*, "To duplicate the planting on Olive Road would cost at least \$30,000, basing the value of the 60 trees at the conservative figure of \$500 each.

To plant a young tree would cost only a fraction of that amount, and Harlow's estimate of their value after reaching maturity makes the planting a good investment.

So, after taking a long look backward, it is time, I think, to look forward—to trees and tree-lined streets in the future, and time to get some digging started.

For although people may not know when it is spring on the desert, plants do, and many of them get off to the best possible start when planted now at the beginning of the growing season.

## Contest for Photographers . . . . .

The timelessness of the desert is evident each time the subtle seasons change—and every one of these seasons is a picture-taking season. We are anxious to reproduce in our Pictures-of-the-Month page each month the desert, in its various phases, as interpreted by you in your camera work. Any subject will do so long as its theme is the desert. Cash prizes are given to the best of these photographs each month, and the contest is open to both amateurs and professionals.

**Entries for the March contest must be sent to the Desert Magazine office, Palm Desert, California, postmarked not later than March 18. Winning prints will appear in the May issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize, \$5. For non-winning pictures accepted for publication \$3 each will be paid.**

### HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

*The Desert Magazine*

PALM DESERT, CALIFORNIA



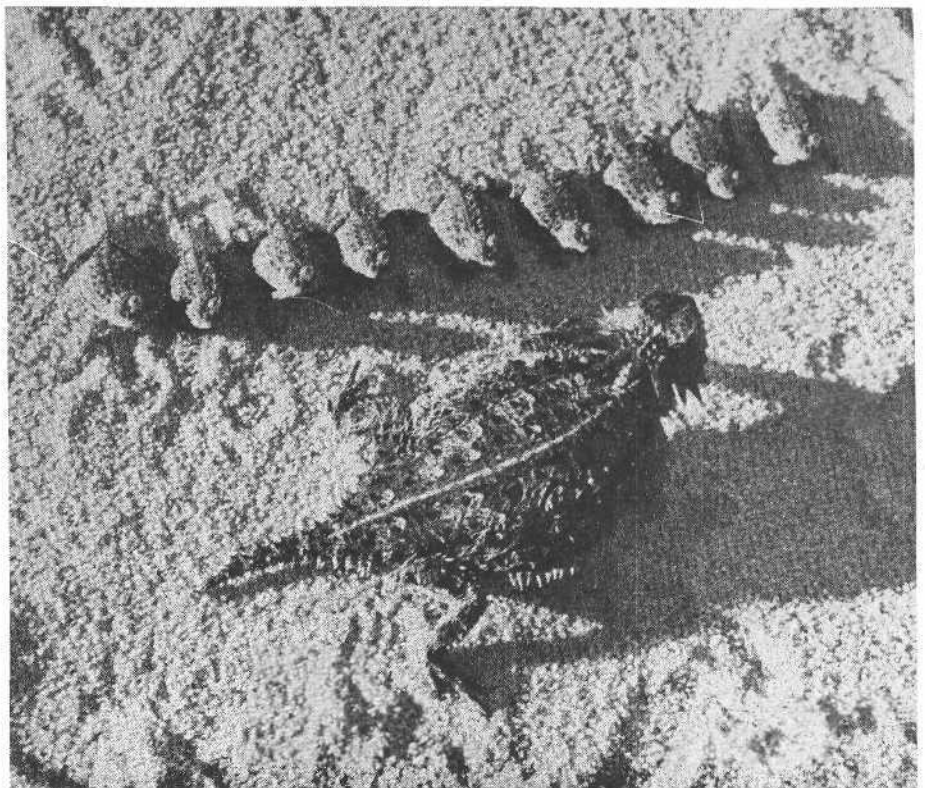


## *At Rest*

An old freight wagon standing near the ghost town of Hamilton, Nevada, supplies the subject for this month's first prize winner. The photograph was taken by popular western travel author Nell Murbarger of Costa Mesa, California. Miss Murbarger used an argoflex, Model E camera with Eastman Plus X film; f. 18 at 1/25 second; K-2 filter.

## *Roll Call*

This photograph of a mother horned toad and her nine regimented babies was taken by Sharon Proctor of Phoenix, Arizona. Miss Proctor's second prize picture was taken with a Speed Graphic on Eastman Super Panchro-Press film; f. 18 at 1/25 second.



## *Pictures of the Month*

# The Indian Bureau is Wrong...

The old policy of drift in Indian affairs has given way in Washington to a new program designed eventually to give the American Indian the same economic independence enjoyed by his white neighbors. There is much controversy over the new policy, both on and off the reservation.

In order that Desert Magazine readers may gain a little better understanding of the issues involved in the new federal policy, the following letters exchanged between Henry F. Dobyns, an anthropologist at Tucson, and Randall Henderson, editor of Desert, are published. Mr. Emmons, mentioned in the following letter, is Glenn L. Emmons, U. S. Commissioner of Indian Affairs, and Paul Jones is a Navajo Indian, chairman of the Navajo Tribal Council at Window Rock, Arizona:

Tucson, Arizona

Dear Mr. Henderson:

Generally, your editorials upon the delights of desert living strike a responsive chord. But when you undertake to discuss the American Indian, you frequently grate on my nerves. Your January issue pronouncement grates harder than usual. It reads like the Republican Party platform on Indian Affairs.

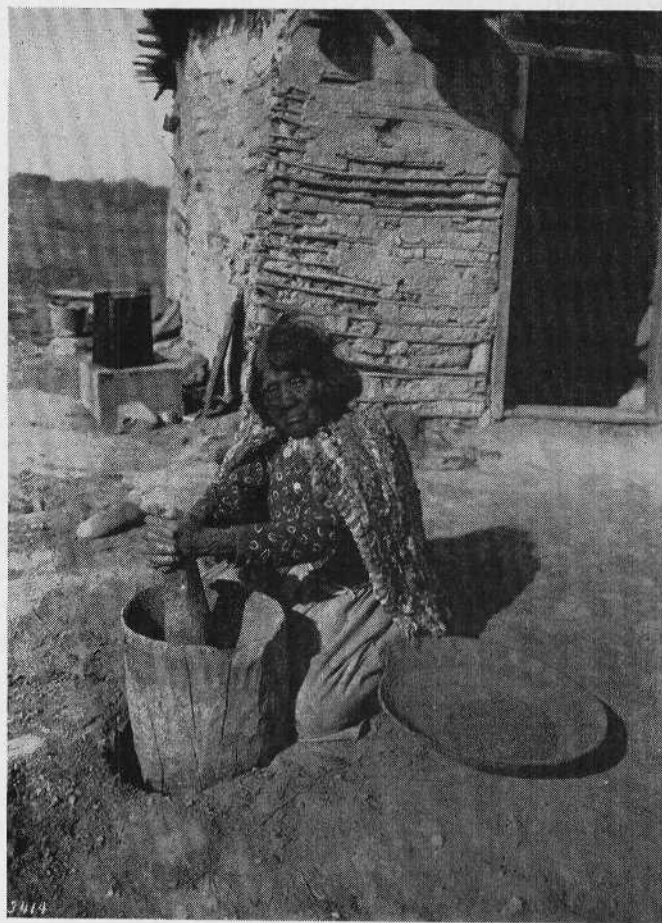
To begin with, the use of the word "guardianship" is inaccurate and misleading. The relationship between the federal government and Indians is not that of guardian and ward—and there happen to be a number of court decisions to that effect. A certain type of politician who is after Indian lands likes to employ this term inaccurately because it gives people a bad impression both of the Indians and the government. That is how your editorial reads.

The federal government (and certain state governments: Texas and Iowa) is trustee of lands reserved for the Indians as the last remnants of this vast continent which they once entirely possessed. The trusteeship of that land is supposedly a sacred obligation of the United States, but it applies to the land, not to the people. No Indian has to remain on any reservation a minute longer than he wishes.

However, in a sense you are correct that under the present Administration, the government has attempted to shirk its trusteeship. Mr. Emmons seems determined to destroy tribal governments and liquidate tribal assets as quickly as possible. As a matter of fact, his policy is strongly reminiscent of that famous phrase attributed to Commodore Vanderbilt. Brought up to date, it amounts to "The hell with the tribes—just see that the unscrupulous Indian who has learned some of the worst features of American profiteering is in a position to cash in (and then some smart white operators with wider experience can cash in even more)."

The catch phrase "responsibilities of full citizenship" is another administration whipping boy. All U. S. Indians have been citizens of the United States since 1924 by act of Congress. So what responsibilities would you have them assume?

What the administration means by that phrase is that it wants them subjected to state and local laws and taxes, and not to continue to be self-governing, self-taxing bodies on their reservations. Mr. Emmons apparently is incapable of perceiving a world in which Indians continue to govern themselves. They must, if his policy is any guide to his



*Mojave matriarch grinding mesquite beans in the fashion of countless generations before her. Should this primitive way of preparing food be preserved for its curio value? Photograph from the C. C. Pierce Collection.*

convictions, be turned into individualized atoms in the general agglomerate of the country.

Actually, few of the existing tribal governments object to withdrawal of federal services from reservation areas, as long as they can remain self governing, and possess an adequate resource base to provide their tribesmen with adequate incomes. They do object to federal services being withdrawn before the resource base is developed to the point of reservation self-sufficiency.

And that is just what the present administration is doing—and why the Indian "defense" groups are accusing the government of turning them loose in a cruel and greedy world without visible means of support, as you so nicely put it. I challenge you to find the visible means of support of some of the Paiutes abandoned by the government in its first round of termination bills.

If Mr. Emmons has given all the major tribal groups an opportunity for full expression of their desires and suggestions to him personally, your comment is the first I've heard of it. From what I have seen of him in action on reservations, his technique is to tell the Indians what he has planned for them and then to rush off to pressing appointments with Bureau personnel.

Your blast at La Farge and the Association on American Indian Affairs is unjustified and erroneous. The Asso-



ciation has not reversed itself. It is not blasting the administration for its efforts to extend greater rights to tribesmen. Because that is what the administration is not doing! The administration is taking away rights—particularly the right to self-government and tribal integrity. Mr. Emmons has said his policy sets the right of one Indian to reservation resources against the rights of all the rest of the Indians of the tribe in preserving an economic grazing or forest management unit. This is the same old Republican double-talk (and not so very double in this case) which really means diddling the Indians out of their land resources and destroying tribal self-government. That is what the Association is blasting. It is for the right of tribes to govern themselves, and to hold the United States to its moral and legal (through treaties) trusteeship obligations. What right, incidentally, have we as a nation to decry the USSR and boast of our own record of trusteeship when we are embarked upon a policy of violating our trusteeship obligations to the Indian tribes which we ourselves imposed through enforced treaties for the most part? If the United States cannot live up to its Indian treaties, I cannot see any great hope that it will live up to its trusteeship agreements under the U.N. any better in the future. A nation either is or is not moral—and I can't see that the Indian policy of the present Administration is especially moral.

Your pat on the back to the present administration for all Navajo children having school facilities is also a misrepresentation of the truth. (Although I blame Jones for that rather than you.) Under many decades of Republican administration of Indian affairs, what few Navajo children could be kidnapped and sent to school were sent to boarding schools, de-loused, de-haired, forced into a Protestant denomination, etc. No wonder there was little desire for schooling.

When John Collier came into office he ended the worst boarding school policies, but he also began building day-schools of the normal American type for the Navajos so that children could go to school while living at home with their families. He had to start from scratch. He had to wait for funds from Congress. He had all the problems of Navajo land-use with scattered families and few concentrations of people large enough for economic American-type school facilities. But he went a very long ways. And after he left office, succeeding administrations carried on with that particular program, reverting to use of boarding schools of a more modern type. The big burst at the end came under the Navajo Development Program, which passed a Democratic Congress under Truman. By the time Emmons came into office, the problem was virtually licked, and now all he has to do is sit back and benefit from the publicity. Jones is wrong in giving credit to Emmons for this, and so are you. (Jones I can excuse—no Navajo who lived through the trauma of stock reduction is rational on the subject of John Collier. He has become a symbol which can be blamed for everything wrong in the highly critical situation of the Navajos when he came into office which he had to remedy somehow, and which was the legacy of decades of administration of the party and philosophy of the present one.)

Your argument about reservation land-holding is specious. As I mentioned above, any Indian can leave a reservation any time he wishes, and buy property like anyone else if he has the necessary funds. Jones' letter is misleading also, for the reservation Indian owns his home, if not the land under it, which he owns in common with everyone else in the tribe, but which is (if the tribe's self-governing mechanism works properly, which the Navajo's has not always) assigned to him.



*Indian farmer on the Colorado River Indian reservation at Parker, Arizona. Should the Indian be given encouragement and opportunity to adjust his life to the economic pattern of the nation of which he is a part?*

If the Navajo Council had townsites surveyed and laid out, it could perfectly simply assign lots to the younger people Jones refers to, for them to build upon. The fault in that situation lies not with the reservation policy, but right in Jones' own front yard. I haven't noticed that members of other tribes have much difficulty in building homes on reservation land. Partly the difficulty seems to be that the government has done so much for the Navajos, and intervened in their affairs so often, that they have come to expect more, and their mechanism of self-government is still a long ways from perfected.

The Walapais, who are concentrated at Peach Springs on their reservation, assign home lots to families through the Tribal Council. The improvements are paid for and belong to the families. And the land belongs to them in the sense that it is theirs to use and develop, and cannot be taken by someone else. It is still tribal land only in the sense that it is trust land which cannot be alienated from tribal ownership.

The Papagos have a similar working system of use rights both at townsites where the Tribal or District Councils control lot assignments (including those to non-Indians such as churches), and the wide open spaces devoted to flood-farming or grazing. They've even learned how to control and cut down the big private cattle operators through concerted community action. Which is more than can be said for the Navajos, who are so caught up in problems they spend far more time waiting about them than doing anything constructive to solve them.

If this missive is long and sharp, please realize that that is due to my disappointment at seeing a magazine with as much influence in the Desert Southwest at *Desert* lined up editorially on the side of a policy which I regard as vicious and destructive of basic values of both Indian and American life. Your attitude toward the non-human resources of the desert—as expressed in your final editorial paragraph—seems to me to be basically one of conservation. So I feel that your attitude toward the human resources of the desert should also be one of conservation, and not support of the present administration's destruction.

HENRY F. DOBYNS

# The Indian Bureau is Right...

Palm Desert, California

Dear Mr. Dobyns:

Oddly enough, the same mail which brought your letter of disagreement with my January editorial on Indian affairs, also brought a letter from Paul Jones, tribal chief of the Navajo, expressing his appreciation for the stand *Desert Magazine* has taken in this matter.

Naturally, I will go along with Mr. Jones, partly because he is better qualified to speak for the Navajo Indians than either you or me, and secondly because my views happen to coincide with his.

Mr. Jones enclosed with his letter a widely syndicated editorial written by Dorothy Thompson in which she expressed much better than I did the philosophy of those who are in accord with the present policies of the Bureau of Indian Affairs. Miss Thompson wrote, referring to Jones' letter:

"It is not the letter of a tribal 'chief' but of a modern and obviously able man who dares to think that it is time the Indians began to live in the 20th Century.

"The Navajos, the largest tribe in the United States, residing in an area about as large as West Virginia, so barren as to require 22 acres for one sheep, can only approach the American standard by finding employment elsewhere. According to their chief, *they are fed up with becoming museum exhibits.*"

Perhaps the Indians of the Navajo nation cannot speak for all the tribesmen—but they are the largest of the tribes, and probably the most impoverished as a whole. We must give weight to their attitude.

It is true in theory that the Indians now enjoy the role of full citizenship. In actual operation they have neither assumed the full obligations of citizenship, nor the full rights of citizenship. They are not required to pay the same taxes that you and I pay for the support of our schools. And as to rights, no Indian having an allotment on a reservation can go to the bank and borrow money to build a home. This works a special hardship in the case of Indian GIs—who are barred from home loans under the GI bill if they want to build on their own reservation allotments.

It is all a very beautiful dream, to imagine that the various Indian reservations might be maintained as little islands of primitive and colorful culture where American tourists could go to see how primitive people live. But an anthropologist, better than anyone else, should know that Navajo Indian women will not continue forever to work for seven or eight cents an hour weaving beautiful rugs in an economy where the law has established \$1.00 an hour as the minimum wage. The floors of my home are covered with those rugs, and I am depressed by the thought that they will not always be available. Some of the most peaceful evenings in my life have been spent eating mutton and fried bread beside the fire of a Navajo hogan—and I wish that could last forever also, but it won't and you and I must reconcile ourselves to the inevitable change that will take place.

For the first time, we seem to have an administration in Washington which recognizes this law of change insofar as the Indians are concerned, and is seeking to direct it in an orderly way. You and I can serve best, not by blasting the administration, but by encouraging its efforts

to educate and train the Indians for gradual integration in the great melting pot which is the United States.

My first job when I finished my schooling in 1911 was on the Colorado River Indian reservation at Parker, Arizona, and I have had close contact with various tribes during the intervening 45 years.

Out of that association has come the firm conviction that the future hope for the Indian lies in eventual integration. I gather from your letter that you share the views of Oliver La Farge who would maintain the Indian culture as something apart—as a sort of museum exhibit. Frankly, I am rather surprised that an anthropologist knowing what the evolutionary processes have done to historic and prehistoric cultures back through the years could hold such a view.

California is one of the states in which termination is in progress. I have had an opportunity to observe at close quarters the federal program as it applies to the Mission band of Cahuilla Indians at Palm Springs. In terms of real estate values this is one of the richest tribes in the U.S.A. Owning very valuable land within and adjoining the City of Palm Springs—land which the white men would pay millions to obtain—these Indians have been subjected to many kinds of pressure. But Uncle Sam has remained a faithful and diligent guardian of their interests all through the process of allotment, distribution and sale of such portions of their reservation *as they chose to sell.*

I also am aware that many of the California Indians are opposing the termination program. The reasons for this are easy to understand—if we realize that there also are many white Americans who would much prefer to live on various types of subsidy rather than do hard work.

I am aware that the program was started before Glenn Emmons assumed office, yet one of the most effective agencies being employed in the program of integration is the establishing of placement offices in some of the larger cities. I happen to know that the Los Angeles office is doing a very effective job.

There are now 16 such agencies, and according to information I have from Washington about 87 percent of the Indians who are being relocated are making a satisfactory adjustment to their new status in the American economy.

Termination is going to be a slow process—that is inevitable. From what I have seen of the program of the present federal administration, this fact is fully recognized. Some of the Indians themselves are and will continue to oppose it bitterly, just as they were bitterly opposed to John Collier's stock reduction program. Indians are no different from their Anglo-American cousins. Some of them do not always have the vision and the discipline to know and do what is best for themselves.

Just now I feel that the Bureau of Indian Affairs under Glenn Emmons is making a greater contribution to the solution of their problems than the Association of American Indian Affairs.

I was interested in the presentation of your views and if there is no objection from you I would like to use it in *Desert Magazine* so our readers will become acquainted with the opposing views in the current controversy.

RANDALL HENDERSON

DESERT MAGAZINE



# Desert Original: The Squaw Dress

The Japanese have their silk kimonos, the Spanish their mantillas and shawls—and the Navajo Indian women have handed down to contemporary American womanhood a costume native to these shores. The squaw dress is typically American — practical, individual and beautiful.

By PHYLLIS W. HEALD

**W**OMEN HAVE every reason to love the squaw dress. Its good points are manifold and its beauty is based on sound principles of costume design. It is becoming to milady no matter what her size, age or coloring. It can be bought for little or much and it may be worn at breakfast or to a ball. It does not wrinkle and it cannot go out of style. Incidentally, with its full swishing skirt and gay colors, it has tremendous masculine appeal. I have yet to discover a man who doesn't like it.

So, why shouldn't the squaw dress be, and remain, popular?

About 80 percent of the feminine population of the Southwest, between the ages of six and 60 own squaw dresses. Many possess two or more and I know of one woman who has 30. Slowly but surely this vogue is moving North and East. Soon, the well co-turiered woman will have to have at least one squaw dress if she is to consider her wardrobe complete.

A few conscientious objectors say all squaw dresses look alike and are, by definition, monotonous. Which seems as absurd as saying all beef tastes similar, or all diamond rings are uninteresting because they are made in the same general pattern. Actually there are as many variations as there are squaw dresses and they range in price from \$5.95 to \$250.

The squaw dress dates back to the 1840s when pioneer women first arrived in the West wearing their full, many petticoated cotton skirts, tight bodices and sunbonnets. We must



*There are many variations in squaw dresses and prices range from \$5 to \$250. Dress pictured above comes in sizes 10 to 18, sells for about \$30.*

*Photograph courtesy Dolores Resort Wear of Tucson.*

credit the Navajo Indian woman of Arizona and New Mexico with a true sense of the artistic for she immediately recognized the possibilities of the full skirt and rejected the rest of the costume. In place of the form fitting waist she substituted a loose blouse of solid color to offset the magnificent turquoise jewelry which is her pride and joy.

However, these Navajo blouses are vivid, and the combinations the women toss together in skirt and waist make their paleface sisters gasp. They enjoy the same magnificent abandon, when it comes to color that our Mexican

neighbors possess. A purple blouse over an orange skirt piped in red is not considered too daring for a comfortably padded 200 pound Indian woman. And on her unbrassiered bosom will rest a squash blossom necklace of devastating gorgeousness. Layers of silver bracelets add to this enchanting picture which turns southwestern streets into living, vivid fantasies.

To our stoic red female compatriots goes credit for changing the uninspired, sexless costume fashioned by our sturdy ancestors of 100 years ago into some-

thing as dramatic and brilliant as the bird of paradise.

Today, we of a more conservative temperament, have modified the dress back, not to the 49ers, but to a slightly less glorified state than the Indian carried it. It is now only the purist in design who insists on the Navajo blouse. Usually the waist is worn inside and an Indian belt or a trim-binding at the top of the skirt acts as the connecting link. The dress is made of one color or a gradation of colors with variegated trimming. Figured material has recently become popular which calls for a minimum of trim. However, decoration is still the criterion of a squaw dress and it is not unusual to see as much as 300 yards of ricrac and braid on the most expensive ones.

The waist has freed itself of the conventional to better serve the time of day and the time of year. Sleeveless blouses with V or square necks are designed for summer; blouses studded with brilliants for evening, or painted with tennis rackets and horses for sportswear. There are plain blouses for the lucky ones who have Indian Pawn jewelry to wear, full blouses for the young and slender.

But the skirt is inviolate. It does not change except in degree. It must always be made in three tiers—the bottom one sometimes taking as much as 12 yards of material. Usually the boldest decoration is placed on the skirt, with a matching, but lighter, design above.

Design is the crux and the charm of the squaw dress. It gives each individual leeway to express herself in personality and taste and even to reveal her hidden urges. Therein lies one of its chief delights—the wearer can appear bizarre without being common; suggestive without looking crass; or modest without feeling simple.

It is possible to get Indian artists to paint authentic symbols on a dress. This at a price, of course, but it assures one of an original. Many shops and dressmakers have designers who create exclusively for them. With study, a Dolores or a De Grazia model can be recognized as quickly as a Cassini or Dior.

Thus it would seem that at last the American woman has a costume which is all her own. Each nation, the silk kimonos of Japan, to Spain with her richly shawled Senora, on to the English Duchess in her custom-made tweeds, has developed a dress as a symbol of its feminine aristocracy. Why shouldn't we of the United States have ours? And the squaw dress, an American heritage from our Indian ancestors possessing color, romance, history and beauty, can well be it.

# Here and There on the Desert . . .

## ARIZONA

### Mexican Labor Act . . .

MEXICO CITY—The United States and Mexico have agreed to extend for one year the Mexican farm worker agreement with the single exception of one new point. It is that Mexican workers shall receive a subsistence allowance if they are not given the opportunity to work 80 hours in a two week period. The State Department points out that the minor changes made in the agreement largely provide for better control over illegal entrants, reduction in required paper work and interchange of the two governments' instructions on operations and administration of the program.—*Yuma Sun*

### 322 Land Tracts Opened . . .

TUCSON — The Bureau of Land Management has opened 226 small tracts of land near Tucson and 96 in the Apache Junction area east of Phoenix to lease-purchase applicants. The tracts are approximately five acres each, but some of those west of Tucson range from 1.96 to 6.97 acres. — *Phoenix Gazette*

### Hopis Oppose Registration . . .

PHOENIX — Three traditionalist Hopi Indian chieftains told a joint meeting of the Arizona Commission of Indian Affairs and the Inter-Tribal Council that they see no sense in encouraging their people to register as voters. Through their interpreter, Thomas Banyacya, the chieftains said that by voting they stand only to lose more of their Indian identities and culture. "It will lead to paying taxes," Banyacya added. "This land is our own land. We were here first. Our life was good. Of course, we didn't have cars, but we had plenty of rain, wild game, grass." The three chiefs were Dan Katchongva, David Monongye and George Nasaweseoma.—*Phoenix Gazette*

### Kaibab Herd Still Large . . .

KAIBAB FOREST—That the winter of 1954-55 was one of the most open in the last 10 years in the Kaibab North winter deer ranges is probably the only reason that Arizona still has a sizeable deer herd in that area, State

## Hard Rock Shorty of Death Valley



Hard Rock Shorty was looking through the newspaper one of the dudes had left on the bench in front of the Inferno store. The new clerk was standing in the doorway.

"See where Henry Kaiser's bought them iron mines down in the Eagle Mountains," Shorty remarked. "Guess not many folks know that ol' Pigsaw Bill an' his mule wuz the ones that discovered them mines. Happened way back in the '80s when Pigsaw and me wuz prospectin' down in that country.

"We wuz campin' by a little spring up in one o' them canyons, an' once a month Bill an' his mule'd go down to Mecca—they called the place Walker in them days—and pack in a load o' supplies.

"Ol' Dynamite, the mule, kept loosin' his shoes. They'd come into camp, the mule a limp in' and Pigsaw cussin'.

"'Somethin' golblasted spooky about them mountains,' Bill'd say. 'Them shoes wuz all right when I started—an' by the time I got to the ridge over there they wuz gone.'

"Well, it went along that way fer months, an' ol' Dynamite 'ud lost enough shoes to outfit a blacksmith shop—and Bill wuz gittin' madder an' madder.

"Then one day some surveyors came into camp. Said they wuz workin' fer the government an' had come across a big iron deposit—whole mountain of it.

"'Funny,' one of 'em said. 'We kept findin' mule shoes stuck to the rocks like they wuz glued there. That's how we knew it was iron—magnetic iron.'

"Bill an' me sold them claims fer \$3000—an' now this paper says Henry Kaiser paid over a million fer 'em."



Game and Fish Department biologists believe following their recent survey of the area. The severe drouth of the summer of 1954 brought about such a reduction in available summer forage and left the deer in such a weakened condition many of them were unable to withstand exposure even to an open winter. For some unknown reason, disease did not spread through the herd and the die-off was confined primarily to fawns and old deer.—*Glen-dale News*

#### Observatory Site Tests . . .

**SAN VINCENTE**—A team of astronomers is expected soon to transport a ton of electronic equipment up the tortuous slopes of Kitt Peak on the Papago Indian Reservation to test a possible site for the nation's newest observatory. In all, about six other Southwest peaks will be tested. The new observatory would be supported by about \$4,000,000 of taxpayers' money from the National Science Foundation. Initial plans call for a 36-inch and an 80-inch telescope.—*Phoenix Gazette*

#### Gila Dam Approved . . .

**GILA BEND**—The U. S. Bureau of Budget announced that it will approve for expenditure a \$600,000 congressional appropriation to start construction on the \$25,000,000 Painted

Rock Dam on the Gila River, 20 miles below Gila Bend. Main purpose of the Painted Rock Dam, which has been in the planning stage since 1950, is to shield the 75,000 acre Welton-Mohawk reclamation project and the City of Yuma from flash floods which the U.S. Corps of Engineers estimates causes near \$2,000,000 a year in damage. Although not designated as an irrigation project, the dam would impound some waters during flood seasons.—*Phoenix Gazette*

#### CALIFORNIA

##### Blythe-Niland Maneuver Hit . . .

**EL CENTRO**—Violation of state's rights, county rights and individual rights may eventually be involved in the attempt of the U. S. Department of Justice to seize the Blythe-Niland road without just and adequate compensation to provide for an alternative highway between the Palo Verde valley and Imperial valley. This was pointed out as evident in the move of the department of justice to strike out the most important arguments in the answer of Imperial County to the government's suit for condemnation of the road. Imperial County attorneys saw the government move as a technical maneuver aimed at reducing Imperial County's valuation of \$700,000 on the road through the Navy's Chocolate Mountain Gunnery Range.

#### 1500 Lots Offered . . .

**SAN BERNARDINO**—The Bureau of Land Management announced it will lease or sell 1500 five-acre lots of public land for homesites in San Bernardino County. More than 7000 acres of land were opened for immediate filing by persons entitled to veterans' preference. A drawing will be held on April 10 for assignment of tracts. Applicants should file with the Manager, Land Office, 215 West 7th Street, Los Angeles 14, California.—*Los Angeles Times*

#### Steam Engine Retired . . .

**DEATH VALLEY**—After almost a quarter century of hauling potash in Carlsbad, New Mexico, a narrow gauge steam locomotive was retired for enshrinement in Death Valley National

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Desert Magazine

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THE *Desert* MAGAZINE

PALM DESERT, CALIFORNIA



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Monument. United States Potash company refinery employees loaded Old No. 2 aboard a railroad flatcar which took it to Death Valley. The 60-ton locomotive was originally used to haul borax from Ryan, California, to Death Valley junction for many years.—*Ridgecrest Times-Herald*

#### Small Tract Valuations . . .

**BARSTOW** — Some 286 small tracts, with an estimated valuation of well over half a million dollars, have been added to tax rolls in the Barstow area, Paul B. Witmer, Southern California manager of the Bureau of Land Management disclosed. A total of \$36,000,000 of government land has been added to tax rolls in Riverside and San Bernardino counties.—*Barstow Printer-Review*

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#### Salton Park Gets Priority . . .

**INDIO**—Salton Sea State Park improvements have been given third priority among all 1956-57 projects of the State Division of Beaches and Parks. The sum of \$93,850 is budgeted for campground development, a boat ramp and road resurfacing at the park, situated on the north shore of Salton Sea. Coachella Valley water engineers reported that the sea increased its level by six inches during 1955. The sea rose 13.5 inches in 1953 and 9.5 inches in 1954. Its present level is 235 feet below sea level.

#### Recreation Land Sought . . .

**BLYTHE** — The State Division of Beaches and Parks is seeking lands along the Colorado River in the Blythe area for recreational development, the Riverside County board of supervisors learned recently. In a progress report to the board, the State indicates that the lands being sought lie within Riverside and Imperial counties, the San Bernardino County lands originally in the plan having been dropped. Two applications are being made, one for lands under the jurisdiction of the U.S. Bureau of Reclamation, and another for lands falling within the jurisdiction of the State Lands Commission. — *Palo Verde Valley Times*

#### NEVADA

#### Land Filing Moratorium . . .

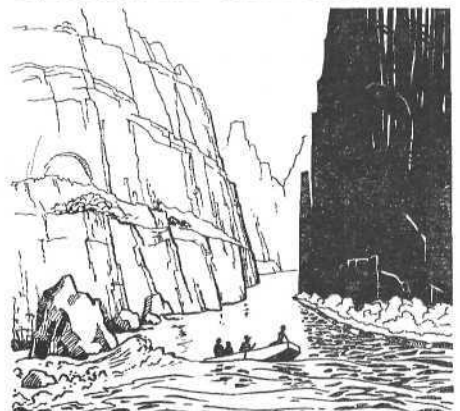
**LAS VEGAS** — The biggest land movement in American history has caused the United States to declare a

moratorium on applications for small tracts of public domain through its Reno, Nevada office. The Bureau of Land Management's Salt Lake regional office estimated recently that 30,000 citizens have filed on tracts in Clark County, Nevada. Under a new plan approved by the interior secretary, attempts have been made to streamline the small tract program in Clark County. "Everything possible is being done to adjudicate existing conflict between small tract filings and sand and gravel claims. Many hearings will be necessary so that these conflicts, involving about 28,000 acres in Clark County, can be removed with due consideration of existing rights," W. H. Koch, BLM official of Salt Lake City, declared.— *Salt Lake Tribune*

#### River Plan Presented . . .

**CARSON CITY** — A multi-million dollar plan for power development in the high Sierra was presented to the newly-formed California-Nevada compact commission. Officials of the California Division of Water Resources presented their suggested projects, as encompassed in the overall California water plan, for the Truckee, Carson and Walker Rivers. — *Nevada State Journal*

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## Bottle House for Sale . . .

TONOPAH — Efforts during the past two years to preserve the historic Bottle House of Tonopah as a public landmark and tourist attraction by the Nye-Esmeralda Historical Society came to an abrupt end when members of the Business and Professional Women's Club voted to sell the famous structure. A minimum price of \$600, it was decided, will be acceptable for the house and three lots, but the women feel that the property is worth more than this figure due to the increasing value of the real estate and the investment they have made in improvements, including a new roof.—*Tonopah Time-Bonanza*

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## Nevada Tests Harmless . . .

LAS VEGAS — In a formal report on radiation, the Atomic Energy Commission said there was no injurious fallout from the nuclear test series held in Nevada last Spring. A study of badges worn by 171 persons or posted in 284 locations within a 50,000 square mile area confirmed AEC belief that no community was exposed to fallout radiation which could have affected people's health. Nearly 83 percent of the worn badges showed no radiation exposure. The badges were worn and posted in a three-state area bounded roughly by Las Vegas, Boulder City, Ely and Tonopah, Nevada; St. George, Beaver and Cedar City, Utah; and Baker and Barstow, California.—*Salt Lake Tribune*

## Lake Mead Travel Gains . . .

LAKE MEAD — The Lake Mead area attracted an estimated 2,500,000 visitors in 1955. This is far ahead of the previous record year, 1953, which recorded a total through the Park Service checking stations of 2,220,940.—*Nevada State Journal*

## NEW MEXICO

### Kentucky Claim Repudiated . . .

CARLSBAD — An announcement by the State of Kentucky that the world's largest cave is the Floyd Collins Cave, 100 miles south of Louisville, has caused tourist-minded New Mexico officials to point out that the famed Carlsbad Caverns is the world's largest. The Kentuckians say their cave has 32 miles of tunnels. New Mexicans say Carlsbad Caverns has more than 37 miles of corridors, with special emphasis on "corridors" and not tunnels. Furthermore, said Tourist Director Joseph Bursey, there are some portions of the Caverns which have not yet been explored. A few miles away, Bursey adds, in the Guadalupe Mountains, more unexplored caves are located which are possibly larger than Carlsbad Caverns and may even be connected.—*New Mexican*



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## Dust Storms Loom . . .

SANTA FE — Barring some drastic changes, New Mexico and the central plains seem to be in for one of the worst dust storm seasons in years, weather experts predicted. Runoff from Colorado mountains vital to New Mexico and El Paso area irrigated valleys, was forecast as sub-normal, but prospects were somewhat better than the previous two years. Eastern New Mexico and West Texas were expected to bear the worst of the spring winds. Ranges over New Mexico still are holding on to some of the good growth they made during the comparatively wet summer of 1955, except along the eastern border of the state where grass is short.—*New Mexican*

## Pueblos Elect Officers . . .

ALBUQUERQUE — Results of elections held in January at 15 New Mexico Indian pueblos have been reported to the United Pueblo Agency in Albuquerque. The new officials at Acoma, the "Sky City," announced that they will encourage tourist travel this year. Henry Vallo, the new governor, stressed that visitors are welcome at Acoma at any time and that all efforts will be made to guide them to points of interest. Some previous administrations at Acoma have not encouraged visitors.—*New Mexican*

## Indian Youth Gather . . .

SANTA FE — Meeting in Santa Fe the second annual Indian Youth Council endorsed a resolution seeking the amendment of federal laws giving states jurisdiction over criminal and civil offenses occurring on Indian Land. The council, sponsored by the New Mexico Association on Indian Affairs and the Museum of New Mexico Department of Fine Arts, backed the amendment which would provide for consent by the separate Indian tribes before the state can assume civil or criminal jurisdiction.—*New Mexican*

## Pulpwood Industry Seen . . .

ALBUQUERQUE — Dahl Kirkpatrick, assistant forester for the New Mexico-Arizona Forest Service district, believes there is a strong possibility the timberland in the two states may provide a new source for paper. Two advantages the region has over north-

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ern states is that crews can work in Southwest forests about 10 months of the year, and the region has easy access to California markets. Most serious limiting factor is the water problem. But, Kirkpatrick says, mills can be built that produce pulp with very little water.—*New Mexican*

## UTAH

### Bryce Needs By-Passed . . .

PANGUITCH — The *Garfield County News* voiced the opinion recently that all the money made available for road construction in Southern Utah National Parks will be used in the "second rate attraction," Cedar Breaks, while "the major scenic attraction in this section of the world, Bryce Canyon National Park," will be denied needed road improvements. "A vitally necessary link between Bryce Park, Tropic, Henrieville, Cannonville, Boulder and Escalante and the rest of the county and the rest of the world—a year-round highway needed for tourists as well as local residents—is going to be denied while the Park Service goes all out on the Cedar Breaks road—a road which will be used only a very short part of the year," commented the newspaper.

### Polygamy Dispute Flares . . .

SHORT CREEK — The current Utah drive to abolish polygamy came into the news recently when Mrs. Vera Johnson Black chose to part with her eight children rather than sign an amended state affidavit that she would abide by the laws of Utah and refrain from teaching her children the forbidden Fundamentalist doctrine. Her decision eased tension at Short Creek following the Sixth District Juvenile Court's order that the eight children be taken away and turned over to welfare officials unless their parents promised to refrain from the practice of polygamy and teaching it to the children.

### Surplus Food for Navajos . . .

SAN JUAN COUNTY—The Utah Welfare Commission is completing arrangements with the U.S. Department of Agriculture to make government surplus food and commodities available to about 1000 drought plagued Navajo Indians in San Juan County. Approximately 150 Navajos were receiving this type of assistance in mid-January, but the state said the program will be extended to include about 850 more. The food and commodities are

to be distributed through four church missions in the County along with food and clothing regularly distributed by the missions.—*Salt Lake Tribune*

### State Buys Paint . . .

SALT LAKE CITY—Utah bought 60,000 gallons of traffic paint—enough to supply its estimated requirement for highway markers for the entire year. The contracts were awarded only after exhaustive road and laboratory tests on 27 paint samples supplied by various bidders. Total price for the paint was \$174,850.—*Salt Lake Tribune*



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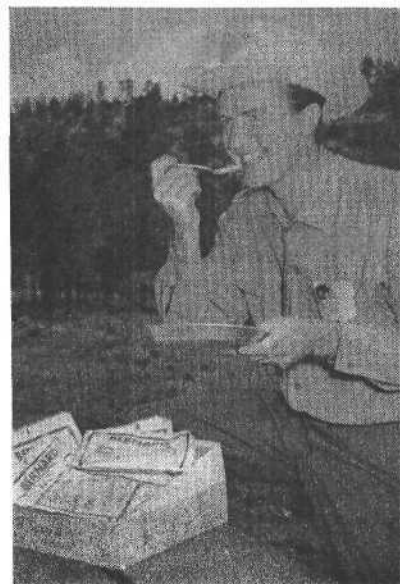
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# MINES and MINING

## Manhattan, Nevada . . .

The White Caps mine was recently acquired by a group of mine operators known as the Noack-Caulfield group, who plan to redevelop the famous old mine as soon as weather conditions permit. The new owners plan to de-water the 800-foot shaft and recover the cinnabar and gold ores known to be in the mine. In its former operating days the White Caps produced \$2,723,000 in gold and mercury. It was known for its spectacularly rich gold ores, but recovery was difficult because of the ore's arsenical nature. A small rotary furnace will be installed to treat the cinnabar.—*Reese River Reveille*

## Orogrande, New Mexico . . .

A lease and option to buy for \$40,000 the 19 A. L. Culver mining claims in the Jarilla Mountains west of Orogrande signed by the Anaconda Company was filed in the office of the Otero County clerk. The lease is for 10 years and calls for a royalty percentage of five percent of the "net smelter return per dry ton" or ore, or \$150 per month, whichever is greater.—*Alamogordo Daily News*

## Boron, California . . .

Giant earth-moving machines cut into virgin desert soil in early January to inaugurate work on the Pacific Coast Borax Company's open pit borax mine, a major step in the \$18,000,000 development of the world's only known sodium borate deposit. The project, which will bring about the conversion from 30 years of shaft-tunnel operations, is expected to be completed next year. The company also plans the construction of new refining and concentrating plants.—*Boron Enterprise*

## Mount Tobin, Nevada . . .

Rich mercury ore has been found in the Mount Tobin area in Humboldt County by Walter Low. It is reported to be one of the richest mercury bearing ore veins recently uncovered. The ore from the property is being processed by the Eureka Mining Co., following the establishment of a temporary retort.—*Nevada State Journal*

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## Ignacio, New Mexico . . .

Tennessee Gas and Transmission Co. of Houston made a record high bid of \$267.12 per acre for 1280 acres of Ute Indian oil and gas land in San Juan County, New Mexico. Forty-one thousand acres of Ute mountain land were put up for bid and offers were received on all but 10,000 acres. The bonus bid total was \$1,400,000. Tennessee Gas also appeared to be the high bidder on two other tracts totaling 3840 acres.—*Aztec Independent-Review*

## Nye County, Nevada . . .

The famous Bullfrog Mine in southwestern Nye County, Nevada, may be put into activity again according to company officials. An expansive core drilling program to explore the company's 45 patented claims in the county was ordered. Geologists have advised that the mine may contain in addition to gold and silver, many new minerals unheard of during the early gold rush days.—*Nevada State Journal*

## Park City, Utah . . .

New Park Mining Co. confirmed a sensational increase in values of gold, silver and copper in a branch of the Pearl fissure at its Park City District mine. Discovery of the ore, which has averaged between four and seven ounces of gold, between 5 and 10 percent copper and up to 45 ounces of silver to the short ton, was made on the 1755 foot level about 500 feet east from the main shaft now being deepened. Some of the values assayed from the face have run above 34 ounces of gold and 100 ounces of silver to the ton.—*Salt Lake Tribune*

## Thousand Palms, California . . .

Despite strong opposition from Palm Springs and Palm Desert spokesmen, the Riverside County Board of Supervisors approved the construction of an ore reduction plant in the Thousand Palms area. The opposition succeeded, however, in having several restrictions placed on the operation, including a 500-foot setback of all operations on the 51-acre tract; 10-foot height limit on all tailings or stockpiled ore; no smelting or similar operations; compacted clay bottom for settling ponds to prevent water pollution; adequate dust collecting apparatus; authority of the health department to halt operations if they are found to be polluting the atmosphere. The permit expires Dec. 31, 1960. The Thousand Palms, Palm Desert and Indio chambers of commerce and the Western Mining council supported the plant.—*Coachella Valley Sun*

## Santa Fe, New Mexico . . .

The accidental discovery of an old gold mine, containing a seven-foot-wide vein of gold ore which had been lost for a century or more, has also revealed what geologists and engineers claim to be "a big mountain of minerals" reports Edward J. James, president of Onego Corporation. Onego, while mining a rich silica deposit at an elevation of 8300 feet on Oro Quay Peak in the San Pedro Mountains, discovered the lost mine.—*Mining Record*

## Carson City, Nevada . . .

The Bureau of Mines estimated that titanium production in the United States during 1955 was 7500 short tons with Nevada producing slightly less than half of that total.—*Nevada State Journal*

## Carson City, Nevada . . .

Nevada's zinc production shows promise of some climb after a two-year slump. Zinc production in the state hit an all time low in 1954 with only 1150 tons produced. However, from January 1 to November 1, 1955, Nevada's production was estimated at 2500 tons. American Metal Co., Ltd., New York importer, recently increased its price for zinc metal purchased from producers to 13.5 cents a pound.

## Washington, D. C. . . .

A miscalculation by the Defense Department during the Korean War, which has never been corrected, has retarded development of the full usefulness of tungsten in high temperature alloys, and is interfering seriously with the tungsten industry, the Tungsten Institute declared. An all-out effort on the part of the domestic tungsten mining industry is planned to correct the situation. Announcement of the effort was made at the same time a contract was signed with the Stanford Research Institute to conduct a research program for the benefit of tungsten.—*Reese River Reveille*

## Superior, Arizona . . .

A 10-year option to purchase two copper mine prospects near Superior has been concluded between Anaconda Company and stockholders of the Bellemont and Queen Creek copper firms. Sale price of the Bellemont was set at \$800,000. The Queen Creek agreement calls for a purchase price of \$400,000. All of the properties are contiguous and are located just south of Magma Copper Company's producing mine at Superior. The properties cover three and a half square miles.—*Phoenix Gazette*

## Hesperia, California . . .

The Morrison-Knudsen Co. has brought in a million dollars worth of heavy equipment to start construction of the Santa Fe Spur line between Hesperia and the Permanente Cement plant site in Lucerne Valley. The Permanente plant is being developed by the Henry Kaiser interests.—*Victor Valley News-Herald*

## Las Vegas, Nevada . . .

The old Potosi Mine, discovered and developed by the Mormons in the early days of the Las Vegas area, may go back into production when lead and zinc market prices are stabilized, it was reported by the Anaconda Co. which acquired the Potosi in 1922.—*Pioche Record*

## Twining, New Mexico . . .

Construction was expected to start in February on a new copper mill at Twining to process ore now being mined in that area by the Taos Uranium Exploration Company. Engineers conservatively estimate 900,000 tons of mill ore at the mine site.—*El Crepusculo*

## San Manuel, Arizona . . .

The giant San Manuel copper crusher mill and smelter plant was expected to start operation in the early part of this year following the testing of equipment. Ore already is flowing from the San Manuel mine, the largest underground copper mine in North America. When the mine and mill are running at full production, expected in mid-1956, the Magma Copper Co. expects to produce 6,000,000 pounds of molybdenum yearly and 140,000,000 pounds of copper. Estimates were that the output would increase the nation's production of copper by eight percent and of molybdenum by 11 percent.—*Phoenix Gazette*



## BOOM DAYS IN URANIUM

# AEC to Ask Competitive Bids On Withdrawn U-One Reserves

A system of competitive bidding will be instituted for leasing uranium deposits developed by the Atomic Energy Commission on withdrawn public lands and certain other AEC-controlled areas.

Lands affected include those originally purchased by the Manhattan Engineer District and subsequently transferred to the AEC, and public lands withdrawn from mineral entry at the AEC's request for exploration purposes.

However, the AEC said it does not contemplate extensive leasing of lands under its

control since the uranium deposits on these lands constitute a reserve.

Ore production from privately owned properties is being maintained at a high level, the AEC reports.

When the AEC determines that a portion of the reserves should be leased, it will award the lease to the acceptable bidder offering the highest cash bonus by sealed bid. Royalty rate, work requirements, and other conditions will be stated in the invitation to bid. These conditions will be determined by the AEC and will be based on the estimated size and grade of the deposit and the cost of mining facilities and production.

A few leases, possibly about 15, will be offered soon to try out the program, but no extensive usage of the new competitive bidding system is planned.—*Dove Creek Press*

## Atomic Power Future Is Limitless, Experts Say

The head of the General Electric corporation recently predicted that in 20 years half of all electric power installations will be atomic.

Possibilities that there will be at any time in the foreseeable future an oversupply of uranium are being discounted more and more positively by all experts and authorities in the field of atomic energy. At present uranium continues to be the most sought after element in the world, with its supply as yet far short of the demand.

Equally important is the fact that even more rapidly than the supply is increased new uses and developments are produced to increase the demand, in a field that is still in its infancy and is said by authorities to have a future the full extent of which cannot be visualized at present.—*Reese River Reveille*

## BLM Releases Withdrawn Yuma Land for Mining

The Bureau of Land Management announced the opening of 9824 acres of land in Arizona's Yuma Desert for public filing of uranium and other mining claims.

Acting Secretary of Interior Clarence A. Davis said the lands no longer are needed for reclamation purposes. The lands have been closed to mining location, but open to mineral leasing. After April 3 they will be open to all forms of mining location.

The lands are part of a 20,250 acre area which was withdrawn for the Colorado River storage and Yuma reclamation projects. Inquiries concerning the lands should be mailed to the BLM, Phoenix, Arizona.

## TREASURE HUNTERS

New type metals detector. Distinguishes metals from black magnetic sands. Ideal for locating gold nuggets, placer deposits. Detects metals under salt water.



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## U.S. Puts Limited Supply Of Thorium Metal on Market

The government has offered to sell from its stocks limited quantities of thorium metal for \$43 a kilogram (2.2 pounds). Thorium, the so-called "fertile material" can be transmuted in atomic reactors to fissionable uranium-233. U233 can be used to make weapons or to fuel nuclear power plants. It has been estimated that successful "breeding" of U233 out of Thorium in atomic plants could boost the world's nuclear energy reserves four to 10 times.

Many authorities believe no long-lasting economic atomic power industry can be established without exploitation of thorium. Despite its potential value, Thorium is not being stockpiled in large amounts by the government. It expects private enterprise some day to take on that job. The AEC plans at some future time to use thorium blankets in an advanced reactor at Oak Ridge, Tennessee, in the hope of producing U235 in amount greater than the U235 used in the reactor's primary fuel. The only fissionable materials now in use are Uranium-235 and Plutonium. The AEC last August announced a price of \$25,000 a kilogram for U235. It has not yet announced the price at which it might buy or sell Plutonium. It probably is costlier than U235.—*Humboldt Star*

# Prospector's Headquarters

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The "Snooper" Geiger counter—Model 108.....	\$ 29.95
The "Lucky Strike" Geiger Counter—Model 106.....	99.50
The "Professional" Geiger Counter—Model 107.....	139.50
The "Special Scintillator"—Model 117.....	299.50
The "Deluxe" Scintillator—Model 111B.....	495.00

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With 404 case and batteries.....	66.00

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Kit for 14 Minerals (Uranium not included).....	16.95
Kit for 36 Minerals (Including Uranium).....	31.25

## BOOKS

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"Uranium Color Photo Tone".....	1.00
"Facts You Should Know About Uranium" by R. W. Ramsey.....	1.00
"Uranium Prospectors Hand Book".....	1.00
"The Uranium and Fluorescent Minerals" by H. C. Dake.....	2.00
"Popular Prospecting" by H. C. Dake.....	2.00
"Uranium, Where It Is and How to Find It" by Proctor and Hyatt.....	2.50
"Minerals for Atomic Energy" by Nialinger.....	7.50
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## MAPS

Map and Geology (Uranium and Mineral Districts of California).....	1.50
Map of Kern County (New Section and Township).....	1.50
Map Uranium and Minerals (The Nine Southwest States).....	1.00
Book and Map "Gems and Minerals of California" by McAllister.....	1.75
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Fluorescent Minerals set—10 Specimens—boxed.....	2.50
Prospectors Picks (not polished).....	3.85
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## Vestalee Uranium Plans New Treatment Plant at Phalan

A major expansion program is underway on its Phalan property by Vestalee Uranium and Thorium Corporation. The property is located in Elko County, Nevada, about 50 miles southwest of Wendover. For the past seven months the mine workings have been under rehabilitation, exploration and development, and the production of crude ore

shipments to various marketing agencies has been in progress. 5 areas have been opened up which have produced an economic grade tonnage. In view of the complex nature of the sulphide ore containing gold, copper, silver, tungsten and molybdenum minerals, a treatment plant is scheduled in order to increase the domestic margin by marketing the minerals or favorable combination of minerals separately.—*Wells Progress*

## Plateau Uranium Ore Output Increased by 50% in 1955

Production of uranium ore on the Colorado Plateau during 1955 was one and a half times greater than in 1954, the Grand Junction Operations Office of the AEC reported.

In a year-end review of operations, the AEC said that "by June, 1955, there were approximately 1000 uranium ore producers on the plateau . . . and it is estimated there were 6000 persons directly engaged in uranium mining operations in the Western United States last year."

Percentage of uranium ore purchased under contract system increased from 49 percent in 1948 to 98 percent during 1955. According to best estimates, private industry drilled five million feet of hole in exploration for uranium deposits last year.

"Before 1955, we were able to cite only about 10 uranium deposits which had more than 100,000 tons of reserves. Today, we know of some 25 deposits containing reserves in excess of 100,000 tons and of at least a few where the reserves are measured in multiples of 1,000,000 tons," the AEC report states.

"In addition to the new finds in new localities, important discoveries have been made in and around active districts on the Colorado Plateau. Substantial additional tonnages of ore have been found in the Big Indian Wash area and the Red and White Canyons of Utah, in the Grants, N. M., vicinity as well as in some of the longer-worked areas of the Plateau, including Long Park and Paradox Valley, Colorado," the report concluded.—*Salt Lake Tribune*

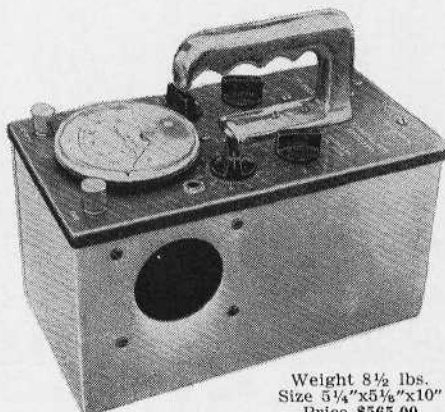
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Alarm sounds only when pre-set gamma radiation level is reached, and increases in pitch as radiation level increases beyond pre-set amount.

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A high point in an era of a resurgent mining industry was reached in Mohave County, Arizona, when the first carload of uranium ore was shipped from a county mine. Shippers of the high grade ore were the operators of the Democrat mine on the east slope of the Hualapai Mountains. The 56-ton carload was shipped to the Vitro Chemical Company in Salt Lake City, Utah. The mine was originally worked in the 1870s and 80s as a gold and silver property. It is owned by Sylvia Vukoye and is operated under a bond and lease arrangement by the Spartan Mining Company, Charles E. Howell, Ralph Antles and associates. Work was started on the property in February of 1955.—*Mohave Miner*

A uranium strike of major proportions has been made in the Rundberg mine, the Apex Uranium company announced. Officials announced that the strike embodies either the first pitchblende vein discovered in Nevada or is a vein of some unique mineral not previously identified, but having definite qualities similar to pitchblende.—*Reese River Reveille*

## RADIUM MINES, INC.

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FOR SALE: Uranium, Germanium, Rare Earths,  
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## AEC to Open Tuba City's New U-Ore Buying Station

A new uranium ore buying station and sampling plant was expected to be opened by the Atomic Energy Commission in Tuba City, Arizona, on February 1. The sampling plant was built by Rare Metals Corporation of America and leased to the Commission pending completion of the uranium processing mill being erected by Rare Metals.

After completion of the mill, scheduled for this summer, the Rare Metals firm will take over the sampling plant to purchase ores for their own account. In the meantime, the Tuba City sampling plant will be operated for the Commission by its ore-buying agent for the purchase of ores that are amenable to the treatment processes being provided.—*Coconino Sun*

A uranium ore body totaling at least 40,000 tons has been indicated by drilling on property of Blue Goose Mining, Inc., in the Circle Cliffs area of Garfield County, Utah. Engineers estimate the ore will run between \$30 and \$40 to the ton, Blue Goose president L. E. Murray said. Probing of mineralized holes shows the deposit is up to seven feet thick with uranium oxide content as high as 1.44 percent and possible average of over .40 percent, Murray said. About 7200 feet of a projected 15,000-foot drilling program has been completed. —*Dove Creek Press*

## TRUE OR FALSE ANSWERS

Questions are on page 18

- 1—False. The burro was brought to the Southwest by Spaniards.
- 2—False. Lowell Observatory is located on Mars Hill just out of Flagstaff, Arizona.
- 3—True.
- 4—False. Location notices are required only in the location monument.
- 5—True.
- 6—False. There were no horses in the Southwest before the coming of Europeans.
- 7—True. 8—True.
- 9—False. Squaw Cabbage grows wild in many parts of the desert but it has never been regarded as a vegetable nor was it cultivated by the Indians.
- 10—True.
- 11—False. The blossom of creosote is yellow.
- 12—True.
- 13—False. Salton sea was formed by overflow waters from the Colorado River in 1905-6-7.
- 14—False. Domestic sheep were first brought to the Americas by the Spaniards.
- 15—True. 16—True. 17—True.
- 18—False. The capital of New Mexico is Santa Fe.
- 19—False. The Wasatch Mountains are in Utah.
- 20—True.

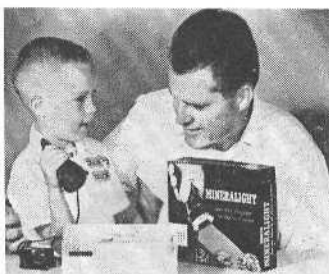
The Coso Uranium Company of Ridgecrest, California, has made its first shipment of 100 tons of uranium ore to a Salt Lake City, Utah, mill. The company has a 500-ton contract with the AEC. Company officials estimate that the ore will net between \$60 and \$140 per ton. The 26 unpatented claims of the Coso Co. are located east of Haiwee Reservoir on the west flank of the Coso Mountain Range.—*Ridgecrest Times-Herald*

The Verdi Development Co. of Mojave, California, is negotiating with the AEC for a contract to buy uranium ore from other producers within a reasonable radius of the company's processing mill. The mill, first of its kind on the West Coast, went into operation in mid-November of last year,

processing an average of 75 tons of ore per day from Verdi's 2200 acres of claims near Rosamond. As a preliminary to any contract, the AEC is presently engaged in listing all uranium producers and possible producers within a 300-400 mile radius of the Verdi mill at Mojave.—*Mojave Desert News*

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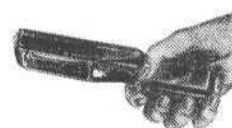
YOU GET THIS SET—Short-wave ultra-violet MINERALIGHT, complete for 110-volt AC, fully guaranteed, gift packaged • 8 beautifully mounted mineral specimens. • Invisible crayon, chalk and ink. • Fluorescent materials demonstrator card. • Educational folder: "Rocks and Minerals that Fluoresce with MINERALIGHT" — list and color descriptions.



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Hershel Shaw was elected president of the Banning, California, Mineral Society recently. Serving with Shaw will be Frank Karas, vice president; Mrs. Beulah Karas, secretary-treasurer; and Pete Masten, director.—*Banning Record*

Cliff Messinger was named president of the Tacoma, Washington, Agate Club. Others elected were Glen Myhre, vice president; Lottie Summers, secretary; Elsie Meridian, treasurer; and George Green, director.—*The Puget Sounder*

Unanimously elected to offices in the Glendale, California, Lapidary and Gem Society were Eugene Rath, president; Ellis Roth, first vice president; Arthur Bowman, second vice president; Cecelia Keiss, secretary; and Leo Molitor, treasurer.—*Glendale Gems*

Max Woods will be the new president of the Bellflower, California, Gem and Mineral Society. Others elected were Stan Walters, vice president; Marion Davidson, secretary; and Charles Wolfe, treasurer.—*Bell Notes*

New officers of the Indiana Geology and Gem Society of Indianapolis are Frank C. Sanders, president; Ralph E. Hagemier, vice president; Mrs. Edward Hedeon, secretary; Fred S. Smith, treasurer; and Miss Florence Geisler, historian.

E. C. Brookins was elected president of the Gem County Rock and Mineral Society. Earl Kent will serve as vice president; Mrs. A. R. Albee, secretary; Mrs. A. J. Monroe, treasurer; A. R. Albee, federation director; Mrs. Cora Holman, publicity chairman.

The Delvers Gem and Mineral Society of Downey, California, has elected the following officers: Martin Henson, president; Ted Merrifield, first vice president; Francis Bradshaw, second vice president; Zelma Thieme, third vice president; Harry Anderson, secretary; Glendora Parks, treasurer; and Rip Mosher, Bill May, Ed Flutot and Charles Bullock, directors.—*Delvings*

The Riverside, California, Gem and Mineral Society has elected Thomas V. Harwell president for the coming year. Other officers are Clarence Wunderlich, vice president; and Lloyd E. Holmquist, secretary-treasurer.

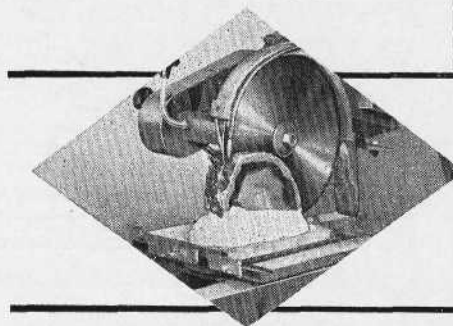
The Wasatch Gem Society of Salt Lake City, Utah, elected the following officers: Don Jordan, president; Marie Crane, vice president; Dr. B. D. Bennion, field trip chairman; Faye Burnside, secretary; and Ken Stewart, treasurer.

Stewart Romney was elected president of the Mineralogical Society of Utah. Also elected were Walter H. Koch, first vice president; Dr. Olivia McHugh, second vice president; W. Hugh Burnside, secretary; Edna Johnson, treasurer; and Katherine Stake, historian.

The Del Norte Rockhounds of Crescent City, California, elected these officers for the new club year: Gertrude Penn, president; Catharine Thomas, vice president; Margaret Gaines, secretary-treasurer; Armond Poirier, Lenore Sondergard, Art Abbott, Jack Powell, Inez Merrill and Jack Thomas, directors.

New officers of the Sequoia Mineral Society of California, are Velma Hill, president; George Baxter, vice president; Sylvia Dial, secretary; Mabel Anderson, treasurer; and Roy Schoetker, federation director.

**Cut 'Em FAST...  
Cut 'Em SMOOTH!**



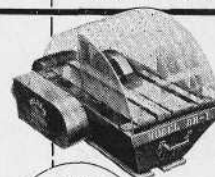
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New officers of the San Francisco Gem and Mineral Society are Oscar Merwin, president; Walter Eyestone, vice president; Ivy Schryver, recording secretary; Helen Jaye, corresponding secretary; John Dille, treasurer; Frances Bramhall Iden, librarian; Anne Bain, hostess; Jack Donohue, curator; and Dr. George Bates, Hobart Chenoweth, Al Grapes, Georgia Paine, Henry Reinecke and Dr. Lillian Wong, directors.—*The Mineralog*

Dr. Asher Havenhill, Fresno physician, was elected president of the Fresno Gem and Mineral Society. He succeeds Clarence Yoder. Also elected were Ocie Randall, first vice president; George Pierson, second vice president; Marvin Grove, treasurer; Corrine Laine, secretary; Walter Riley, federation director; and Sara Smerud, Theodore Bahl, Merel Rowe and William Winter, directors.

### FINDING GOOD MATERIAL IN DUMPS NOT ALL LUCK

Mrs. Jessie Hardman, secretary of the California Federation, has the following advice to give on how to find material in a mine dump:

Study the situation carefully, try to find a spot where no one has dug before. Study the shrubbery on the dump. A plant indicates a spot where no one has dug in recent years. Dig around its roots.

Start at the bottom of a dump that has not been worked very much. If you start in the middle, you may end up working the same material twice.

When you find a good specimen, study the material in which it lies. When the mine is working, the discarded material is tossed out over the side of the dump. Your best bet, after finding a good specimen, is to work up toward the place where the material was dumped.

Pay particular attention to the debris around obstructions in the dump such as boulders.

If you find debris where someone else has found good material, dig there. The reason material is found in the dump in the first place is because the miners either missed it or else it was inferior to their standards. The same applies for the rockhound who dug before you—he misses some and tosses out some, too.

Each mineral has its own characteristic in dumps. Sheelite, for instance, is found in concentrations. The pegmatite are found in pockets of clay.—Coachella Valley, California, Mineral Society's *Lik 'n Lap*

### GOLD FIRST METAL USED BY ANCIENT MAN

Gold was undoubtedly the first metal used by primitive man, for occurring as it does in stream beds, its bright color probably attracted his eye, and it was soft enough to be easily worked into various shapes, which, because they did not tarnish, became permanent ornaments. Gold is associated with the very earliest civilizations known on earth. It has been found in ancient tombs and was used as ornamentation in Egypt 3000 years ago. Gold forms very few compounds, but has a decided tendency to alloy with other minerals.

Natural gold is never pure, but is usually

an alloy with silver, the paler the metal, the more silver it contains. Australian gold is the purest (three percent silver) found. California gold averages about 10 percent silver and European gold as much as 30 percent silver.

The largest gold nugget ever found is the "Welcome Nugget," discovered in Australia and weighing 248 pounds. The largest nugget found in California weighed 161 pounds. California, in the middle 19th Century, was the largest gold producing area in the world, but today this honor falls on South Africa where half of the world's production is mined each year.—Howard Blackburn in the San Diego, California, Lapidary Society's *Shop Notes and News*

### LINDE "A" RUBY POWDER \$3.75 PER LB.

For a **LIMITED TIME** the factory has asked us to sell "factory seconds" of this wonderful polishing agent which normally sells for \$20 per lb. Actual professional tests show this to be perfect for polishing cabochons and for use in tumbling barrels. **DEALERS WRITE FOR DETAILS. QUANTITY IS LIMITED** but we should be able to fill orders until the end of the year. 8 oz. \$2.00; 1 lb. \$3.70; 5 lbs. for only \$13.90.

### TIN OXIDE \$1.50 PER POUND

If you buy \$5 worth of **Basic Lapidary Supplies** from the following list. A \$10 purchase entitles you to buy 2 lbs. **Tin Oxide** at \$1.50 per lb. A \$25 purchase entitles you to buy 5 lbs. of **Tin Oxide**.

### NORTON CRYSTOLON GRINDING WHEELS . . .

Size	6x1½"	6x1"	8x1"	8x1½"	10x1½"
80 grit				\$8.20	
100 grit	\$2.90	\$3.95	\$5.85	8.20	\$12.40
220 grit	3.25	4.30	6.45	9.00	13.65
320 grit	3.65	4.90	7.35	10.25	15.50
Shipping weight	2 lbs.	3 lbs.	5 lbs.	6 lbs.	9 lbs.
Crystolon Wheel Dressing Brick 6"x2"x1"					\$1.05

### CRYSTOLON ABRASIVE for the Lapidary . . .

Grit Size	1 Pound	5 lb. Lots	Grit Size	1 Pound	5 lb. Lots
80, 100, 120, 180, 220	\$.90	\$.56	Graded 400	1.09	.75
2F (320), 3F (400)	.94	.60	Graded 600	1.35	.98

### DURITE (Silicon Carbide) ROLL SANDING CLOTH—

Dry Rolls—Available in 120, 220, 320 grits

2" wide, 25 ft. long—\$2.15; 150-foot roll—\$ 9.60

3" wide, 15 ft. long— 2.15; 150-foot roll— 14.10

10" wide, 5 ft. long— 2.15

12" wide, 5 ft. long— 2.40

### DURITE SANDING CLOTH in round disks . . .

Dry Type Available in 120, 220, 320 grits				Wet Type Avail. in 150, 220, 400, 600 grits			
6" discs	8 for \$1.10	25 for \$ 2.40		6" discs	5 for \$1.00	25 for \$ 3.90	
8" discs	5 for 1.10	25 for 4.40		8" discs	3 for 1.10	25 for 7.00	
10" discs	3 for 1.10	25 for 6.90		10" discs	2 for 1.15	25 for 11.00	
12" discs	2 for 1.10	25 for 10.10		12" discs	2 for 1.65	25 for 16.00	

### CONGO OR FELKER DI-MET DIAMOND BLADES

4" diameter by .025" thick	\$ 7.80	10" diameter by .040" thick	\$14.80
6" diameter by .025" thick	7.80	12" diameter by .040" thick	18.20
6" diameter by .032" thick	7.80	14" diameter by .050" thick	25.20
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8" diameter by .040" thick	11.40	20" diameter by .060" thick	39.20
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**NOTICE:** After August first we will be located at 2020 North Carson St., Carson City, Nevada. Mail address, P.O. Box 117. Gold Pan Rock Shop, John L. and Etta A. James, prop.

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## MILITARY TO STOP WANTON REMOVAL OF JADE DEPOSIT

Recent exploitation of the jade deposits on the Hunter Liggett military reservation on California's Monterey Peninsula has necessitated certain restriction on removal of the semi-precious stone according to Col. Harry A. Welsch, deputy post commander. The restrictions are designed to conserve the stone for removal by legitimate collectors, he said.

Several commercial organizations have removed the stone from the reservation without authorization and have utilized methods of excavation which endanger the value of the remaining jade. Deposits at Jade Cove and Willow Creek have been blasted out with dynamite, the military reports.

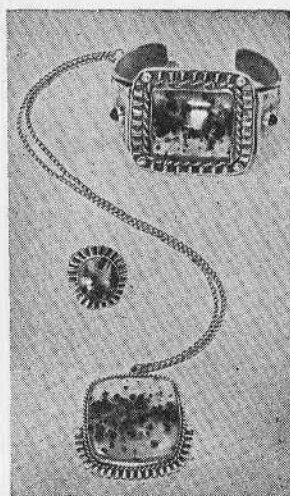
Persons desiring to enter the reservation for the purpose of removing jade will be required to submit a written request to the commander of the reservation asking permission to enter and excavate the jade.

Lapidarists who desire to explore the jade deposits at Jade Cove and Willow Creek are asked to write the commanding officer several days in advance of the proposed trip. Persons who enter the reservation without authority will be escorted from Hunter Liggett by military police.

In the past, commercial interests entered the post without authorization and removed jade by the truck and boatloads, the military reported.—*Salinas Californian*

• • •

One of the most noted turquoise mines in New Mexico is the Tiffany Mine near Albuquerque, so named because Tiffany of New York took all the mine's output for over 20 years. It is estimated that the gem material during the 1891-96 period was valued at \$1,500,000. Today the Tiffany is a tourist attraction. The upper cuts show the markings of primitive tools used by the Indians. More modern excavations are visible in the lower levels. The Azure Mine near Silver City, New Mexico, was another heavy producer. One pocket at the Azure, discovered in 1893, was productive until 1907. A 1500 carat nugget was found here.—Seattle, Washington, Gem Collectors Club's *Nuts and Nodules*



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## SOCIETIES LIST MARCH- APRIL GEM SHOW DATES

On March 3 and 4 the Mineral and Gem Society of Castro Valley is planning a gem show at the Hayward Union High School, Hayward, California.—San Jose Lapidary Society's *Lap Bulletin*

The San Luis Obispo, California, Gem and Mineral Club will hold its annual exhibit at Veteran's Memorial Hall on March 17-18. The famous Biconoid collection will be featured at the admission-free show. Doors will open at 10 a.m. and close at 9 p.m. on both days, and a field trip is scheduled.

March 17 and 18 are the dates for the Tucson, Arizona, Gem and Mineral Society's Second Annual Gem and Mineral Show. The show will be held in the north end of the Pima County Fair Building at the Fairgrounds on South Sixth Ave. and Irvington Road.

The fourth annual Joint Show, combining the talents of the Washougal Gem Club, Yacolt Mineral Club, Columbia Gorge Rockhounds and Mt. Hood Rock Club, is scheduled for March 24-25 at the Crown Zellerbach Hotel, Camas, Washington.

The annual Eugene, Oregon, Gem and Mineral Show is scheduled for April 14-15 at the Lane County Fairgrounds in Eugene. A conducted field trip on both days of the show is planned. Those seeking commercial space in the show should write to the Eugene Mineral Club, 2512 W. 7th St., Eugene, Oregon. Outside exhibits are invited, and exhibitors should write Otto Koenig, 125 Jeppesen Acres Drive, Eugene, Oregon, for space reservations.

The San Jose, California, Lapidary Society will stage its 11th annual gem show at San Jose State College on April 21-22.—*Lap Bulletin*

## PHOENIX PLANS GEM SHOW AT FAIRGROUNDS, MARCH 2-4

Three Phoenix, Arizona, organizations will combine forces March 2, 3 and 4, to present one of the biggest gem and mineral shows ever held in the state. Arizona Lapidary Club, Maricopa Lapidary Society and Mineralogical Society of Arizona members will display a variety of exhibits at the State Fairgrounds from 7 p.m. to 11 p.m. on Friday, March 2; 10 a.m. to 10 p.m. Saturday, March 3; and noon to 9 p.m., Sunday, March 4. Admission charge will be 25 cents.

Outstanding features of the show are expected to be the continuous demonstrations of lapidary work, mounting of thumbnail exhibits and micromounts, gold panning, mineral testing for identification and the art of making jewelry.

Stan Jones will show his complete home-made lapidary equipment including the only known machine for cutting ash trays from semi-precious stone. Another unique display will be Jones' outstanding petrified wood collection.

Arthur L. Flagg will demonstrate the mounting of thumbnail and micromount crystals.

Floyd Getsinger will display his unique camera for photographing micromounts on 35 mm. film.

J. C. Glenn, old time prospector and miner, will show his collection of gold dust and nuggets and will demonstrate the technique for extracting them from river sand by panning.

General chairman of the event is Margaret Graves, 8126 North 12th St., Phoenix.

## SECONDARY LEAD MINERALS YIELD RARE SPECIMENS

Many colorful and rare specimens, much prized by rockhounds, are found as secondary minerals in weathered lead ore veins. Lead oxides, such as massicot, are very rare. Massicot is found with galena and often dismissed by mineral collectors as a dull coating marring the beauty of their specimens.

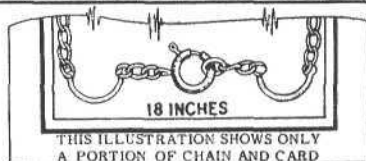
Phosganite is a rare lead carbonate, popular for its fluorescence, and sometimes found in good crystals. Leadhillite, also in

the carbonate group, is attractive but occurs in few localities; delicate blue crystals have been found at Tiger, Arizona.

The lead mineral in the phosphate, arsenate, vanadate and uranate groups are usually highly colored and spectacular specimen material. Here we find wulfenite, pyromorphite, mimetite, vanadenite and endlicite.

Other lead minerals of interest to the collector are cerussite, anglisite and caladonite, which make fine micromounts. Long Beach, California Mineral and Gem Society's *Mineral News*

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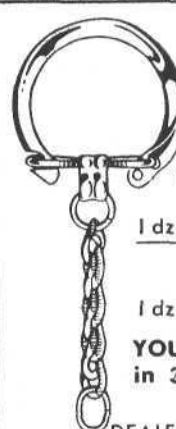
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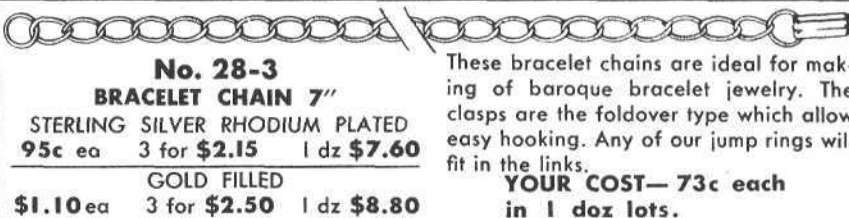
**YOUR COST—26c each**  
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Has foldover clasp. Any of our jump rings will fit in links.

RHODIUM PLATED 2 for \$1.00 \$4.10 dz 3 dz \$9.25

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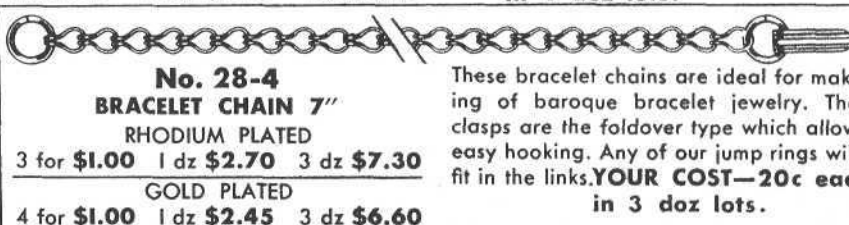
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**95c ea 3 for \$2.15 1 dz \$7.60**

GOLD FILLED  
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These bracelet chains are ideal for making of baroque bracelet jewelry. The clasps are the foldover type which allow easy hooking. Any of our jump rings will fit in the links.

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**4 for \$1.00 1 dz \$2.45 3 dz \$6.60**

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## MINERALS FLUORESCCE WHEN ELECTRONS DISPLACED

What happens when a mineral fluoresces? Basically, it is very simple:

The electrons in the outer orbits of the atoms of the fluorescing material are knocked out of position by free energy from sunlight, x-rays, ultra-violet light, etc. When these electrons move back to their original position they give up the energy previously absorbed. This secondary radiation is a lower frequency than the original radiation, thus, the high frequency exciting energy, normally invisible to the eye, is reradiated at a lower frequency which is visible to the eye, and this we call light.

The term phosphorescence is applied to materials that persist in light-giving qualities after the excitation source has been discontinued. Some of the displaced electrons have been trapped, delaying their return to normal orbits.

The term fluorescence, on the other hand, assumes that the radiation of light occurs simultaneously with the exciting radiation. No precise separation exists between phosphorescence and fluorescence. Phosphorescent materials may persist in giving light for a fraction of a second, or for many hours.

Natural minerals are rarely, if ever, used commercially for their fluorescent or phosphorescent properties. This is because syn-

thetic materials are much more uniform and efficient. However, the first modern fluorescent lamps used willemite ore.

Luminescent materials are called phosphors, meaning "light bearer." Phosphors are composed of a matrix or main mass and an impurity called an activator.

Some of the most common phosphors are calcium silicate (blue), zinc silicate (green), cadmium silicate (yellow-pink) and calcium phosphate (white and color tints). Most of these pure compounds will not fluoresce until combined with the activator—usually a compound of a metal, such as copper, silver, antimony, manganese, bismuth and thallium. These impurities trigger the excitation and also supply the source of luminescence. The electrons in the outer orbits of the activator atoms are the source of the luminescence.

The main body of the phosphor is merely an envelope or housing to hold the activator. Thus in willamite, which is zinc silicate with a manganese activator, only the activator fluoresces, not the zinc silicate. — Dave Yeomans in the Montebello, California, Mineral and Lapidary Society's *The Braggin' Rock*

## GARNET NAMED FOR RED POMEGRANATE SEEDS

Garnet is from the Latin *granatus* meaning seed-like and referring to the red seeds of the pomegranate, also known as the garnet apple.

Bohemia was once a good source of garnet, but the supply there is now almost exhausted and the main source of gem quality garnet today is Burma and Brazil. Non-jewel quality garnet is found in many places, particularly in California and Arizona. This type is used as an abrasive, for garnet paper, etc.

Ruby Valley south of Elko, Nevada, was so named because of the gemstones found there, thought by early pioneers to be rubies, but actually transparent red garnets. Indians have for years gathered these small crystals in the Four Corners area. — San Jose, California, Lapidary Society's *Lap Bulletin*

## INTENSE GREENS, REDS ARE POPULAR GEM COLORS

The most important factor affecting the value of a gem stone is a property often appreciated by the layman as much as by the expert. It seems apparent that there is a universal preference for certain color qualities in gem stones and it is of interest to consider what color effects so appeal to our sense of beauty that we prize them so highly for gems, despite the fact that we would probably shun such tones for dress, house paint, etc.

Since gems are small, we usually demand an uncompromising "intensity" of color, so that a strong effect will be produced. Delicate colors which we enjoy in flowers are often termed "washed out" in gem stones, and, as a rule, the colors found in the most valuable of colored stones are the same ones which delight the child in his toys. Only when there is some strong compensating factor do we excuse an otherwise weak color. Asterism makes a grayish sapphire acceptable.

Most gems derive their color from impurities, but some, like peridot, are self-colored even when pure (idiochromatic). Stones having strong dispersion display color, which is just as important as the color of the material, and this property is what lends beauty to the diamond, sphene and demantoid. Material of varying degrees of refraction bring about interference rays, which result in the beautiful colors seen in opal. There are other less important natural phenomena producing color effects, and some artificial causes, including heat treatment, exposure to X-rays, and dyeing.

Green is a very popular color and any natural stone of sufficient durability, having a distinct and pleasing green color, is sure to be appreciated. Emerald and jade are among the most valuable of green stones. The most favored emeralds are described to be of a grass-green velvety quality, and the best color for jade is described to be emerald green. A tendency toward the blue rather than yellow is desired in such green stones as tourmaline, demantoid, chrysoprase, vesuvianite, variscite, amazonite and others.

Red, as exemplified by the ruby, is a very much desired color in gems and is of rare occurrence. The preferred shade is a deep, soft, rich red, with a slight violet cast as the dichroic secondary color. Spinel and rubellite sometimes approach this color, but spinel shows no dichroism and is more often of a slight yellowish cast.

Blue is quite commonly found in gems, varying from the corn-flower blue of sapphire to sky blue of turquoise.

Yellow does not appear to be a popular gem color, but stones such as the true yellow topaz, honey-yellow catseye, canary diamond, golden beryl, golden sapphire and yellow sphene are prized by some and bring high prices.

Violet and purples are found chiefly in amethyst, spinel, almandine garnet and occur occasionally in corundum, tourmaline and other allochromatic stones.

Pinks are usually not widely desired, but are found in rose quartz, tourmaline, corundum, beryl, topaz and kunzite. Pink shades may be of rare occurrence in some gems and the stone may thus become valuable from a collector's standpoint. Brown shades appear to be the least desired of all stones, but orange hues may be pleasing, as found in sard, essonite, hyacinth and citrine quartz. The orange flame colored variety of sapphire called "padparadscha" is very valuable.

Black stones, once very popular as mourning gems, are now little used, except for dyed chalcedony known as "black onyx." — *The Mineralogist*

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## "FLOW" POLISH TECHNIQUE CAN CLOUD GEM SURFACE

A good polish is one in which the reflecting surface is free from visible scratches, pits and waves. The surface should reflect a bright object with the same clarity on all points of the surface. There should be no "cloudy" spots that dull the natural transparency of the stone. These dull spots result from overheating during the sanding and polishing processes. I recommend the use of wet sanding cloth which will keep the surface temperature sufficiently low to prevent flowing.

This cloudy scum will appear with certain polishing compounds even if the wet method is used. After considerable experimenting, I find that: extremely fine carborundum will give a good polish; air float tripoli gives a better one; and cerium oxide produces a brilliant polish on most materials. All of these must be used on a canvas covered wheel and the stone must be kept cool. The wheel should run under 800 rpm and the slower it revolves, the easier it will be to keep it wet.

The polish on jewelry and on musical instruments is the same given to rocks. The flow method is called burnish on jewelry, French polish on varnished surfaces and Beilby layer on rocks. The burnish is done with a burnishing tool, rubbed over the metal with considerable pressure. The polish is accomplished on the surface of a lacquered piece by softening it with a solvent and leveling it to a polish. In a rock, the surface becomes hot enough to level to a polish during the period it is pressed against the wheel.

Abraded or cut polish is accomplished when the high places on a surface are cut away leaving finer and finer scratches until they can only be seen with a magnifying glass. In jewelry, the abraded method is preferred. In varnish, either method is good, and with stones, I prefer the abraded surface technique.

The cloudy surface and "surface smear" of the flow method mars the beauty of the specimen. A surface movement will blur the delicate tracery of the inclusions. In extreme flow, the surface will take on a decided ripple. At the time of the flow, minute quantities of the polishing powder are drawn into the surface along with tiny air bubbles. It is this air and powder that gives the surface its smoky appearance.—Herbert L. Monlux in the Minnesota Mineral Club's *Rock Rustler's News*

## NAUTILUS FOSSILS CAN BE SAWED OPEN, NEATLY POLISHED

Among the many specimens which can be developed and improved by sawing and polishing are agatized and calcified fossils of the chambered nautilus.

The exterior of these specimens are frequently coated with a layer of iridescent "mother of pearl," while the curved interior presents a series of various-sized chambers. In some specimens the chambers may be completely filled with calcite or wholly empty. To attempt to break open these remarkable fossils to expose the interior is generally disastrous, but they can be neatly sawed and the exposed faces of the chambers polished to bring out the fine details. Polished specimens of the nautilus make very attractive additions to a collection.—*The Mineralogist*

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## OLIVINE, ZIRCON SCRATCHES ELIMINATED BY RE-CEMENTING

Both professional and amateur lapidaries will often encounter difficulties in polishing the long table on a rectangular step cut olivine or zircon. Scratches may appear on the large facets of this material that are most annoying to eliminate. This can often be immediately eliminated by removing the stone from the dop and recementing in such a fashion as to present the opposite side of the facet to the lap wheel.

Why this should be effective is possibly open to debate and theory, but it is effective when other remedies have failed. It is a little difficult to reset the stone in the cement at the proper angle, but with a little practice and patience it can be accomplished.—*The Mineralogist*

## MINIMUM EQUIPMENT NEEDED TO CUT PETOSKEY STONES

You can cut, carve and polish petoskey stone with the minimum of equipment. All you need is a hacksaw, file, wet-or-dry sand paper of 240 to 400 grit, an old felt hat, some oxalic acid, tin oxide or levigated alumina or even silica flour. Rough out the shape you want (bookend, paperweight, ash-tray, etc.) with coarse and fine files. Broken hacksaw blades make excellent scrapers. Wet

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ROCKS AND MINERALS

BOX 29, DEPT. D

PEEKSKILL, NEW YORK

sand to a smooth surface and add details. Dissolve a few grains of the acid in a half cup of water. Mix the powders with this solution to form a thick paste, and smear it on the cloth and rub the stone to a polish. Wash this off and next get a fine shine with a dry cloth. Alabaster and larger fossil cross sections can likewise be polished. — Minnesota Mineral Club's *Rock Rustler's News*

## NINE GEM CLUBS JOIN CALIFORNIA FEDERATION

Nine gem and mineral societies joined the ranks of the California Federation recently, bringing the number of member clubs to 107. Latest arrivals were the Bellflower Gem and Mineral Society; C. R. A. Rockhound Club, Coalinga Rockhound Society; Lahontan Gem and Mineral Club; Palomar Gem and Mineral Club; Pasadena Lapidary Society; Riverside Gem and Mineral Society; Yreka Rock and Mineral Club; and Yuba-Sutter Mineral Society. — San Jose, California, Lapidary Society's *Lap Bulletin*

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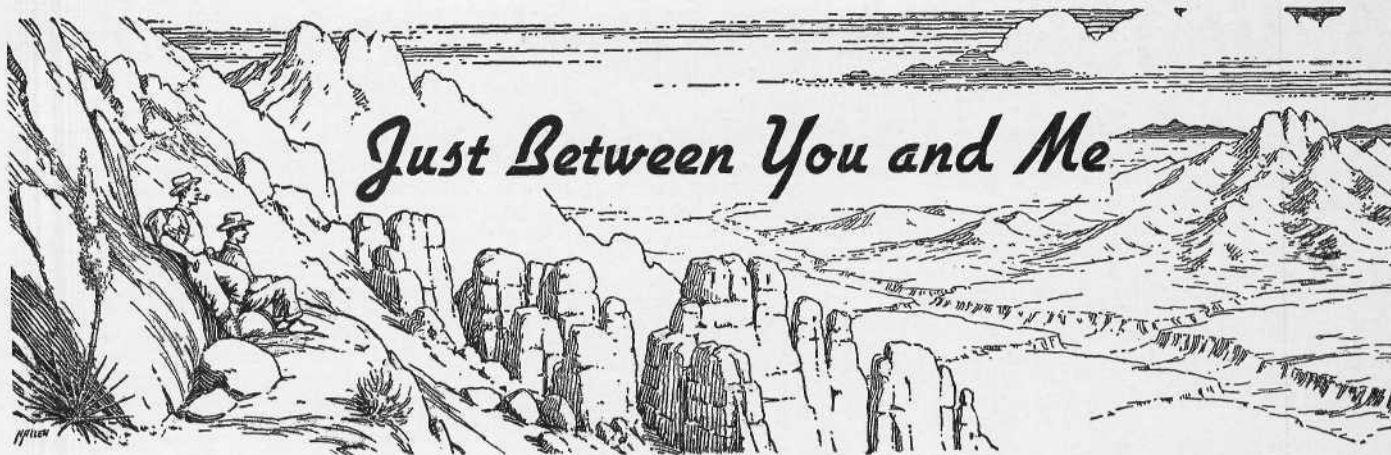
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By RANDALL HENDERSON

ONE GROUP WANTS to strip the desert highlands of their pinyon trees, another group would make composition board of the greasewood, and now comes Senator Alan Bible of Nevada with the proposal that the U.S. Department of Agriculture conduct experimental tests to "determine the feasibility of using sagebrush as the basic material in a paper-making process."

Probably would require at least 20 acres of sage to make enough paper for one Sunday edition of a metropolitan newspaper.

And what would we have if the desert mesas were denuded of their sage brush? The answer: Probably a few million more acres of top soil in the bottom of Lake Mead and other lakes and reservoirs of the Southwest.

And if you ask what value has topsoil that grows nothing but sagebrush I would remind you that in the slow processes of Nature it requires thousands of years to make fertile topsoil—and those sage bushes and their roots are holding in place the minute particles of decomposed rock while Mother Nature adds the rainfall and organic matter necessary to transform them into productive soil.

Removal of the plant cover would leave a barren waste open to erosion of wind and flood run-off. Then we would have a desert so sterile it would be shunned by both man and animal. We don't want any part of the Southwest to revert to that if we can help it.

\* \* \*

Perhaps Senator Bible's interest in discovering a new economic resource for Nevada is influenced by dire news from the gambling front—which in the past has been a very important source of tax revenues for his state. In recent weeks three of the swankiest of Las Vegas' palatial casinos have closed their doors, and others are said to be operating at a loss.

Las Vegas' gambling industry merely is paying the inevitable penalty of over-expansion. There is a limit to sucker money in the good old U.S.A., even in these days of booming prosperity.

We'll hope that Nevada is able to find new sources of tax revenue elsewhere without denuding its colorful landscape of the one shrub which more than any other is keeping the state from washing down the drain—or blowing over into Utah, Arizona and California.

\* \* \*

To most desert folks it is known as Desert Willow—but to the botanist the sprawling tree which grows in the

desert arroyos and bursts out each spring in a mass of pink and white orchid-like flowers is catalpa—*Chilopsis linearis*.

My friend, Ted Hutchison who has a little nursery near Barstow, has been experimenting with the cultivation of Catalpa and his neighbors have become so enthusiastic over the project they have formed the Desert Catalpa Club and are planning to hold a Catalpa Festival in June.

If you are not acquainted with Catalpa, you will not be impressed when it is first pointed out to you—unless it is in blossom. In flower it is one of the loveliest shrubs that grows on the desert, and you will readily understand Ted's enthusiasm for it.

\* \* \*

The rain gods have chosen this season to distribute their moisture elsewhere—and we'll miss the gorgeous panorama of wildflower blossom which follows heavy winter rainfall.

The seeds will remain dormant in the desert sands—awaiting the day when the proper amount of moisture starts the process of germination.

In a Scientific American article, Dr. Fritz W. Went of the California Institute of Technology revealed the conclusions drawn from an exhaustive study of the ecology of desert plants. "In dry years," he reported, "the seeds of certain annual plants lie dormant. This itself is not at all amazing; what is remarkable is that they refuse to germinate even after a rain unless the rainfall is at least half an inch" or more.

This mystery which has interested many a desert nature lover is explained by the fact that some seeds have water-soluble germination inhibitors in their coverings. Rain in sufficient quantity to support the potential seedling washes off the inhibiting substance. Anything less leaves the seeds dormant to await more rainfall—as many are now.

\* \* \*

February and March are delightful months on the desert—most of the time. The rest of the time they are a housewife's nightmare. For these are the months when the winds come, and bring clouds of blow-sand so fine it sifts through every crack and keyhole.

Lois Roy's poem on the back cover of this *Desert* was written especially for the tenderfoot housewives of the desert. I suggest that you read it, even if you are neither a tenderfoot nor a housewife—for it expresses in beautiful words a sentiment that is good for all of us.



# BOOKS of the SOUTHWEST

## SCHOOLMARM TELLS OF NAVAJOLAND ADVENTURES

*Don't Fence Me In* is a lighthearted narrative of an interesting and adventurous schoolmarm, Dee Inman, who takes her readers to the top of a North-western mountain where she served as a fire-spotter and then to one of the more remote corners of Navajoland where she taught shy Indian children for the U. S. Indian Service.

The author exhibits tender insight into the much misunderstood Navajo. She believes, as so many others who are interested in helping the Navajo believe, that the salvation of the *Dineh* lies in educating the young—not in attempting to cure the superstitions of the old.

Mrs. Inman pays particular attention to the land around her. She vividly describes the places she visits and the things she sees.

Published by Exposition Press, New York; eight photographs; 167 pages; \$3.00.

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## SCIENTISTS REPORT ON HUACHUCA RANGE MAMMALS

The Huachuca Mountains along the Arizona-Sonora border rise to an elevation of 9300 feet, and this region because of its comparative isolation is a rich field for the research of the Naturalist.

A rather exhaustive study of the wildlife found in the life zones of this rugged country recently has been completed by Donald F. Hoffmeister and Woodrow W. Goodpaster with the co-operation of associate scientists in highly specialized fields. This scientific work has been published under the title, *Mammals of the Huachuca Mountains, Southeastern Arizona*.

The book is complete with tables,

maps, illustrations, gazetteer of localities, check list of mammals and the detailed accounts of each species.

Published by University of Illinois Press, Urbana, Illinois. 152 pages. Index. Cloth \$4; paper \$3.

• • •

Again available is the popular *Arizona State Guide*. The new and revised edition brings to the reader the latest information on the history, geography, people and culture of Arizona. The book, one of the volumes in the Hastings House, New York publishers, American Guide Series, first appeared in 1940.

532 pages, 64 of illustrations; 24 logged tours of the state, nine of the Grand Canyon National Park; chronology, bibliography, index; drawings and maps; \$6.00.

## NATURALIST KRUTCH WRITES OF HIS YEAR ON THE DESERT

*The Desert Year* affords the reader a pleasant and productive visit with an outstanding naturalist whose interests range from the philosophical implications of a near-drowned bat to the preparation ants make for winter. Joseph Wood Krutch is interested in everything below, on and above the desert and his interest is contagious.

From his first look at the startling panorama of the Southwest to his reluctant departure from "his" desert 15 months later, Mr. Krutch puts into words the feeling created in him by the desert—a feeling that remains an unexplainable emotion with the great majority of us.

Mr. Krutch has written a book whose freshness of approach to the familiar results is an experience those eager to get the most out of the desert will not want to miss.

Published by William Sloane Associates, Inc., New York; drawings by Rudolf Freund; 260 pages; \$3.75.

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## *Out of the Dust*

*(To a Tenderfoot Housewife)*

By LOIS ELDER ROY  
Palm Desert, California

This morning I was feeling sorry for myself.  
A whirlwind had come through the house  
And left a coverlet of dust on sill and shelf.  
Creaking doors and windows made an awful din;  
Above it all I heard a cheery voice call,  
"Are you in?"

A neighbor's voice! I turned around, and lo!  
Gaillardias within her hands,  
Reflecting all the colors of the sunset's glow.  
Wind, and sun, and sand—  
God's elements combined in bright bouquet.

"I just breezed in to bring you these,"  
She called so gay, "They are the first.  
They're all for you," she called back at the door.  
"I couldn't think of anyone who'd appreciate or  
love them more."

Then she was gone. But, somehow, as I hunted  
for a vase,  
As did King Midas, everything I touched  
Began to gleam about the place.  
A golden flower—  
The gold of friendship's love; my whole day did  
bewitch!  
Tonight, I touch each petal—they are real and  
I am RICH!